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Horse Sense or Horse Hype? Estimating the True Economic Impact of Churchill Downs and the Kentucky Derby on the Louisville Metro Area

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In trying to assess the true economic impact of the Kentucky Derby on the Louisville region (north central Kentucky and south central Indiana counties), one can find two different estimates appear in doing a quick search on the internet. Some sources, such as the Kentucky Derby Museum, indicate that the economic impact of the Derby is around \$217 million (Kentucky Derby Museum 2023) but never mention a source or study for this conjecture. In doing some research, this amount is determined to come from a 2001 study by the marketing research firm Wilkerson and Associates (LaMarra 2001), and therefore this value is over 20 years old and does not consider changes in inflation or changes in Derby attendance over the years. The attendance number for 2001 is 154,210 whereas for 2022 it is 147,290 with an all time Derby attendance peak of around 170,513 in 2015 (Loosemore 2022). The Consumer Price Index for this time period shows an increase in the general price level of 1.72 (US Bureau of Labor Statistics 2023).

More likely, one will find the amount of \$400 million mentioned in various press accounts and by local city leaders, and this figure comes from Louisville Tourism and uses a modeling system from Destinations International to make projections (Oser 2020). If one multiplies the 2001 study result by an inflation factor of 1.72 to account for inflation from 2001 to 2023, the result is approximately \$375 million. This is close, but not quite the same as \$400 million, and it also does not take into consideration declines in Derby attendance since 2015.

The Kentucky Derby Festival (2023) claims that in 2011 its events created \$127.9 million in spending so that for every \$1.00 spent on the festival there is a \$22 increase in local economic activity. This would imply a multiplier of 22 which would be considered an enormous one unless most of the work and production done for the festival is on a volunteer basis. The greatest regional economic multipliers usually do not exceed single digits in value. Also, this amount cannot really be considered a significant economic impact if most of those attending the festival's events are local participants and residents. In that case, money spent by locals on the events would simply be a substitute for other forms of local entertainment and recreation. Spending by those coming to Louisville from outside the region would have a greater effect. It is usually through new business or special events that bring in money from patrons outside the region that would not normally flow into it that can be considered a legitimate boost to local economic activity. The Oaks and Derby are such activities and can in that sense be considered "export" like activities. This paper will take a conservative/cautious approach and ignore Derby Festival spending, although it is granted that a certain portion of festival patrons may be coming from out of the Louisville region to spend money.

The General Economic Impact of Churchill Downs Racetrack

Using the regional, economic input-output modeling system IMPLAN (2023), Table 1 below shows IMPLAN's estimated overall and approximate impact of the track at 4th and Central Avenue in Louisville. The employment numbers are based on the revenues earned at the track which are higher than most tracks in the nation and are skewed upward by the earnings of Churchill Downs (CD) during Derby week. According to the Kentucky Horse Racing Commission (2022) around \$43.5 million is net revenue by CD on pari-mutuel wagering for the

entire month of May 2022 for both on-track and simulcasting gambling, most of which is for the Derby¹, and the Derby is usually the first full week in May of each year. Because of the unusually high revenue during Derby week, the employment conjecture of almost 2,000 employed at the facility is very high and needs to be qualified by noting that during the Oaks and Derby more than 10,000 temporary workers are hired to help with large attendance numbers (WHAS11.com 2022). Hence, the track employment numbers are probably 10 times that of what would usually appear for a typical horse racing track and much higher than what resources usually report is the normal, year-round, average employment at the track of between 200 and 500 employees (LinkedIn 2023). This range is due to the seasonal nature of horse racing and the fact that during much of the year facilities sit idle. Nonetheless, the number of nearly 2,000 is legitimate given that IMPLAN has averaged the employment numbers and considers all jobs created by an employer regardless of whether part or full-time, or permanent or temporary within a given time period.²

Table 1—Churchill Downs Overall Impact

Impact	Employment	Labor Income	Sales/Revenues Output
1 – Direct	1920.6	\$ 90,334,303.35	\$ 231,344,117.19
2 – Indirect	139.91	\$ 8,669,942.15	\$ 24,387,319.59
3 – Induced	461.97	\$ 27,256,169.63	\$ 80,801,142.19
Total	2522.48	\$ 126,260,415.13	\$ 336,532,578.97

¹ This number is disproportionately from Derby week activities. For 2022, Derby week wagering gross revenues are estimated to have been around \$392 million, and this would include all races that week including those for Oaks and Derby days, which are estimated at \$348 million. If approximately 80 to 90% of the wagering is paid in winnings, and this is usually the case in horseracing given the author’s previous research, then 10% is left over for the track’s net revenues. For Derby week for 2022, this would be around \$39 million, or about 91% of the net revenues reported to KHRC for May 2022. With the use of online betting apps, it is harder and harder to specify how much gambling is done on-track versus off-track since many can now use an app within the confines of the track to place a bet rather than going to a betting window.

² Given that Louisville is also home to the corporate headquarters of CD, sources indicate that the total employment of the corporation in the Louisville area is around 4,500 (Churchill Downs 2021, 2023). The main site of the corporate headquarters is in eastern Louisville-Jefferson County and is at least 10 miles away from the racetrack location. The goal of this paper, however, is to assess the impact of Churchill Downs racing activities on the local economy.

The net revenues projected for the track appear somewhat accurate given that CD has reported revenues that average around \$1.5 billion on all of its operations from 2019 to 2022 (Churchill Downs 2021, 2023), and with approximately 15.7% of this on average usually being created at the track facilities according to their reports, that would indicate final **average** revenues or net sales of around \$236 million. At one time, track activities are reported to have contributed 25% to CD's total net revenues (Barton 2017), but this has changed as CD continues to earn more and more money from historical horse racing (HHR) machines deployed in gaming centers throughout Kentucky and other locations. The conjecture given by IMPLAN of \$231 million for sales in Table 1 comes very close to \$236 million whereas using the revenue numbers from annual reports for the track location alone yields \$203 million as an average from 2019 to 2022. One item of special note is that the 2020 Oaks and Derby days have gambling amounts far below normal due to Covid-19 safety restrictions and no fans admitted to the track, and so the average revenue numbers look low compared to 2022 revenues.

In further examining Table 1, one can see that the projected 2,000 jobs help to create or support around another 140 jobs among vendors in the locale who do business with the track by supplying different goods and services, and these jobs are created by what are labeled as indirect economic effects. Next, thanks to the spending of the CD employees and the employees of their vendors, another 462 jobs or so are supported in the area, and these jobs are typically in retailing, food services and accommodations, new housing construction, etc. Likewise, the conjectured payroll or labor income of CD employees at 4th and Central Avenue support additional labor income of approximately \$36 million thanks to indirect (the payroll of vendors) and induced (payroll of establishments who sell to the public) effects. Finally, net revenues at the track, mostly from gambling and concessions, generate approximately another \$105 million in

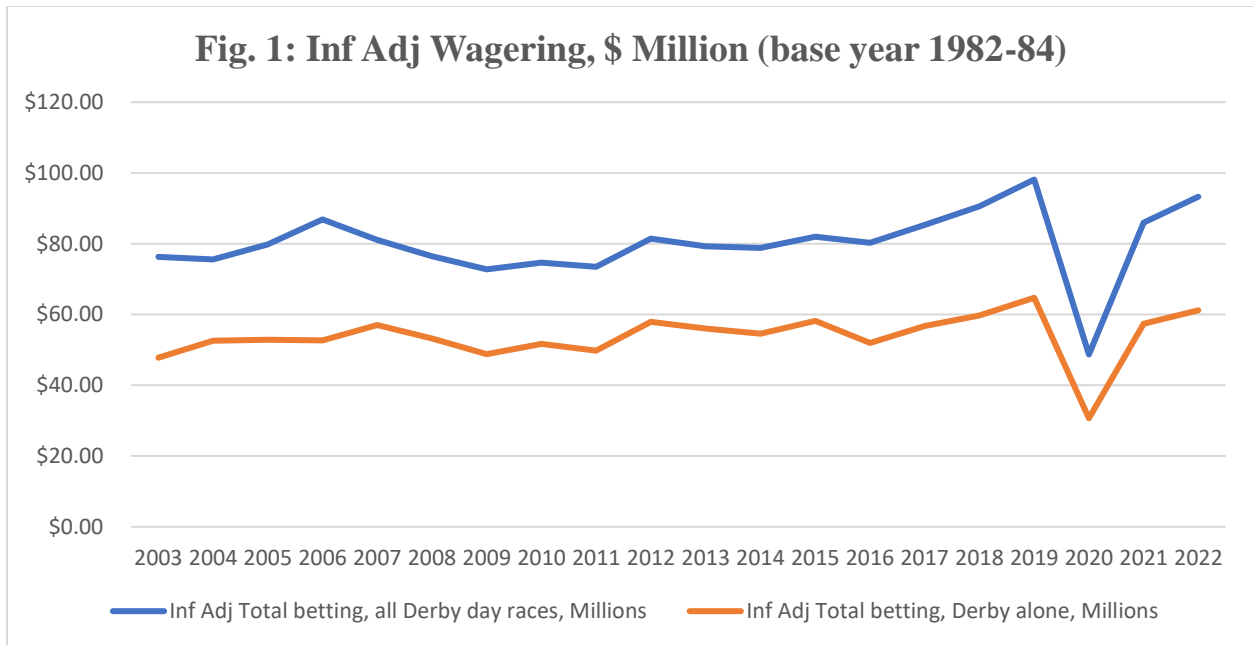
economic activity in the Louisville region due to indirect and induced effects. The final contribution to local economic output on metro domestic product is \$336 million on a short run or annual basis. It is estimated that around 90%, or around **\$302 million**, of this comes from Derby week alone and is on a recurring basis.

Again, because of restricted admissions due to Covid-19 safety measures for the 2020 Kentucky Oaks and Derby, net revenues are reported as much less for that year than usual, and therefore this may be one explanation as to why the estimates given by IMPLAN do not match the \$400 million figures given and often used by the local press. The latter figure has been based upon a peak year of attendance, and as noted earlier, Derby day attendance has been in decline since 2015. However, if one uses an estimate of around 21,000 hotel rooms at 90% occupancy charging an average of \$500 per night (Oser 2020) for 3 nights during Deby week, and then subtract from this ordinary total hotel revenues for 3 nights; and with CD Derby week customers of around 150,000 from outside the metro area perhaps spending an average of \$200 beyond hotel costs in the area during Derby week on restaurants, transportation, and tourism, an additional and approximate \$94 million composed of direct, indirect, and induced effects can be added to the Sales/Revenues Output total of \$302 million for CD activities. This sum would approach the \$400 million projection given in most accounts in the popular press, and therefore, it is not a bad estimate if applied for a typical Derby week and allows for year-to-year variations. Please see Table 2 below.

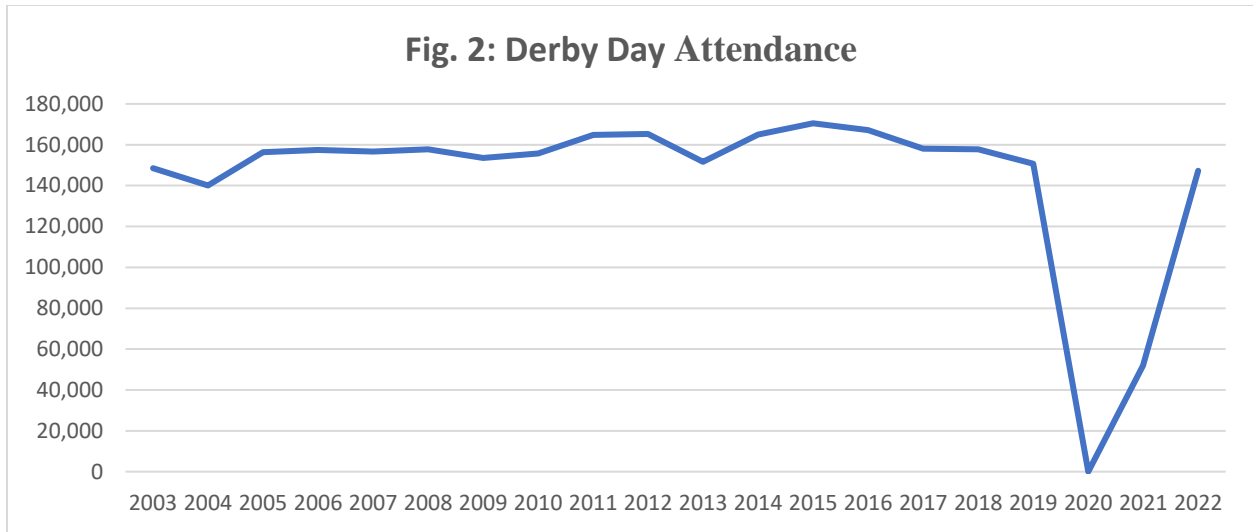
Table 2—Impact of Derby Week Hotel, Restaurant, etc. Spending

Impact	Employment	Labor Income	Output
1 – Direct	544.09	\$ 19,111,208.35	\$ 52,050,000.00
2 - Indirect	108.28	\$ 7,083,582.34	\$ 21,070,877.34
3 - Induced	116.69	\$ 6,975,538.58	\$ 20,730,091.92
Total	769.07	\$ 33,170,329.27	\$ 93,850,969.26

At the same time, the author has written (Lambert 2022a, 2023) that overall racing attendance and gambling has been in decline in the US during the current century, and it is the growth of HHR machines and its gaming centers that has been CD’s main star in its product portfolio over the last 10 years or so. When adjusted for inflation (US Bureau of Labor Statistics 2003-2022), the 2022 wagering for the Derby and all Derby day races falls short of 2019 revenues, and attendance has been falling short of its 2015 peak. Overall annual attendance at Churchill Downs has declined over the years from around 923,541 in 2003 to 776,227 in 2014, the last year for which the Kentucky Horse Racing Commission gives attendance numbers in its annual reports (Kentucky Horse Racing Commission 2003 and 2019). There are increases in inflation adjusted gambling up to and including 2019. See Figures 1 and 2 below.



Sources: Boyd (2022) and Hall (2022).



Sources: Boyd (2022) and Hall (2022).

Tax Revenue Impacts of Churchill Downs and Derby Week—Covid-19 versus regular effects

Table 3 below shows IMPLAN estimates of the tax revenues generated by CD activities for recent years. Of noteworthy interest is that IMPLAN shows negative tax revenues at the local and state levels for the track.³ **This is mostly due to the fact that these estimates include depressed levels from the 2020 and 2021 Covid years.** There are gains in taxes coming from the suppliers to the track (indirect effects) and spending by track and vendor employees throughout the economy (induced effects), but these are not enough to offset direct tax losses. This is probably due to the fact that the years 2020 and 2021 had far lower levels of activity than usual (no attendance in 2020 and only around 52,000 in 2021); that Churchill Downs has received tax breaks over the years by its inclusion in a tax increment financing district; and by signing over many parcels of land on its 4th and Central premises to Louisville city government.

³ This is done by IMPLAN (2023) to show subsidies and/or business losses. See the following for a more in-depth discussion by IMPLAN: <https://support.implan.com/hc/en-us/articles/360036110393> .

The last arrangement helps CD to avoid and/or underpay local and state taxes (Otts 2018, Dobson 2021, Lambert 2022b). Additionally, the Oaks and Derby days receive the benefits of hundreds of local police and Kentucky National Guard troops being deployed to help manage crowds at no cost to the track, and of the state parimutuel tax imposed on wagering at the track, only a small portion goes to the state’s general budget. Most if it goes for paying for equine industry and equine health related programs, which provides an indirect benefit to CD and other tracks as well as horse farms in the state (Lambert 1999, Kentucky Horse Racing Commission, 2003 to 2022). Even music to play “My Old Kentucky Home” by the University of Louisville Marching Band is provided without charge. Granted, these last amount are fairly small when compared to the general economic activity of Derby week.

Unfortunately Table 3 shows that indirect and induced tax revenues at the regional level for the last few years are not enough to offset those lost due to direct operations, although the federal government comes out with a positive balance.⁴

Table 3—Projected Tax Revenues from CD Operations during Covid-19

Impact	Local	State	Federal	Total
1 – Direct	\$ (4,653,535.68)	\$ (6,452,210.80)	\$ 21,614,584.19	\$ 10,508,837.70
2 - Indirect	\$ 251,093.56	\$ 531,531.79	\$ 1,604,323.51	\$ 2,386,948.86
3 - Induced	\$ 1,619,238.25	\$ 3,126,766.62	\$ 4,857,566.41	\$ 9,603,571.28
Total	\$ (2,783,203.86)	\$ (2,793,912.40)	\$ 28,076,474.11	\$ 22,499,357.84

However, when tax receipts are approximated for the hotel, restaurant, transportation, and entertainment spending done for Derby week for the last several years, the losses for the state are now offset, and there is a gain of around \$100,000. See Table 4 below. However, Louisville and other local governments still are estimated to have a net loss of over \$1 million. It appears that

⁴ In its annual reports, Churchill Downs states that it pays income taxes that would be approximately 9 to 10% of its total revenues, although this percentage climbs to around 25% of its earnings after operating expenses are deducted and before interest, taxes and depreciation (EBITD) are deducted.

the Federal government is the only consistent winner regarding tax revenues from Derby week activities for the last several years.

Table 4—Tax Revenues from Hotels, Restaurants, etc. for Derby Week

Impact	Local	State	Federal	Total
1 - Direct	\$ 753,036.35	\$ 1,530,108.97	\$ 3,491,184.21	\$ 5,774,329.53
2 - Indirect	\$ 292,431.05	\$ 587,091.58	\$ 1,284,323.04	\$ 2,163,845.66
3 - Induced	\$ 420,668.77	\$ 811,080.00	\$ 1,241,593.32	\$ 2,473,342.10
Total	\$ 1,466,136.17	\$ 2,928,280.55	\$ 6,017,100.58	\$ 10,411,517.29

Yet, Table 3 gives results that are an anomaly. Table 5 shows tax revenues results based on more normal operating activities prior to the pandemic period. Here it is shown that due to direct, indirect, and induced effects, local and state governments gain revenues of over \$13 million.⁵ The federal government also gains more money. These amounts also more than offset any governmental assistance of any type given to CD.

Table 5—Projected Tax Revenues from CD Operations during Normal Seasons

Impact	Local	State	Federal	Total
1 - Direct	\$ 2,594,348.95	\$ 5,187,374.65	\$ 15,744,589.36	\$ 23,526,312.96
2 - Indirect	\$ 461,758.61	\$ 892,681.35	\$ 2,378,606.98	\$ 3,733,046.94
3 - Induced	\$ 1,443,235.72	\$ 2,667,662.08	\$ 5,009,645.29	\$ 9,120,543.09
Total	\$ 4,499,343.29	\$ 8,747,718.08	\$ 23,132,841.62	\$ 36,379,902.99

Conclusion

This paper has attempted to estimate the overall impacts of Churchill Downs and Derby week activities on the Louisville metropolitan area. The findings corroborate estimates that put the economic impact of a normal Derby week at \$400 million. The economic impact of the Oaks, Derby, and other races that week appear to have a substantive effect on the region's

⁵ The results in Tables 1, 2, and 4 do not change that much because estimated values CD and of Derby week spending on hotels, restaurants, etc., were inputted to the IMPLAN system in a way so as not to be affected by pre-Covid or Covid economic effects.

economy. For businesses, this is good news. During the pandemic and for state government, there is not much of a gain regarding tax revenues, and for local governments there are tax losses. However, during usual years, there are significant gains. It also can be argued that Derby week also serves as a promotional tool to bring in new residents, investment, and businesses to the area, and the value of this is much greater than any possible tax losses or sacrifices. In other words, the events of Derby week can help keep the name of the city circulating throughout the nation just as professional sports teams help to keep the names of their host cities in the media. Of course, many professional sports teams in the NFL, NBA, or MLB have relied upon subsidies and other concessions granted by local governments. Municipal officials have to weigh the benefits and costs of any tax or subsidy decisions. If there are losses, perhaps there are gains in other, non-tangible areas that can offset them. On the other hand, the money sacrificed and taken away from basic public services such as schools, police, fire, and sanitation should only be justified if it serves a bigger public purpose. In general, the economic benefits of CD and Derby week activities appear to create more benefit than loss to the Louisville area, and so any governmental assistance given to CD for Derby week probably can be justified easily by policymakers.

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