TO KEEP THE PACE OR TO BREAK AWAY?

The regional economic effects of the Tour de France

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INTRODUCTION

The Tour de France is one of the most prominent events in the entire sporting panorama, and its influence is totally undeniable, as well as the direct and indirect economic benefits it offers, thus making it a frequently used tool by local and departmental governments to show their nooks and crannies to the world. However, are these benefits relevant enough to be reflected in the annual macroeconomic indicators that reveal signs of economic growth in each of the French departments where a stage was hosted?

- Gjersing Nielsen et al. (2022): Hosting a stage of the Tour de France **does not have a significant impact** on GDP or long-term employment.
- Makkonen & Mitze (2023): Hosting a stage of the Tour de France entails a **2% increase** in the number of tourists that a department receives.

ASSEMBLED DATASET

The panel data consists of **480 observations** corresponding to the 96 French departments across the 20-year period that the work focuses on, that is, from 2000 to 2019, grouped in 4-year periods.

For each of the observations, the following variables are provided:

- GDP per capita (€) and its logarithm.
- Population.
- Altitude above sea level of its highest point (m).
- A dummy variable depending on whether the race was hosted at least 3 times during a given period.
- A dummy variable depending on whether the department was also the Grand Départ of the race.
- A variable counting the number of stage hosts in the department.

METHODOLOGY

The **Difference-in-Difference** (DiD) technique allows us to analyse the presence of divergences between treated and untreated departments once the given treatment occurs.

$$log(gdppc_{it}) = \beta \cdot tour_{it} + \alpha_i + \lambda_t + \varepsilon_{it}$$

This baseline DiD model was complemented with an **ordinary least squares** (OLS) regression so as to examine whether the estimated treatment effects are robust to the inclusion of additional controls.

$$\begin{aligned} log(gdppc_{it}) = {} & \beta_1 \cdot tour_{it} + \beta_2 \cdot population_{it} + \beta_3 \cdot granddepart_{it} \\ & + \beta_4 \cdot villeetape_{it} + \beta_5 \cdot (tour_{it} \cdot villeetape_{it}) \\ & + \textstyle\sum_t \gamma_t \cdot (highestpoint_i \cdot \delta_t) + \alpha_i + \lambda_t + \varepsilon_{it} \end{aligned}$$

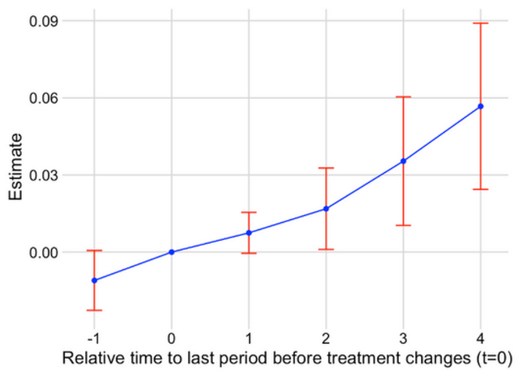
RESULTS

	Estimate	SE	LB CI	UB CI	N	Switchers
Effect_1	0.00748	0.00485	-0.00049	0.01545	242	33
Effect_2	0.01686	0.00962	0.00103	0.03268	170	26
Effect_3	0.03538	0.01520	0.01037	0.06039	103	16
Effect_4	0.05670	0.01964	0.02440	0.08901	48	8

Estimation of the Treatment Effects: Event-Study Effects

Estimate	SE	LB CI	UB CI	N	Switchers
0.02054	0.00889	0.00591	0.03517	292	83

Average Cumulative (Total) Effect per Treatment Unit



DiD, from t=0 to t

Variable	Estimate	SE	t-value	Pr(>|t|)
tour	0.018167205	0.0090460881	2.008294	4.7451e-02*
population	0.000000527	0.0000000983	5.359475	5.8293e-07***
grand_départ	-0.008625659	0.0127265123	-0.677771	4.9956e-01
ville_étape	0.003014677	0.0026993043	1.116835	2.6688e-01
tour:ville_étape	-0.003133844	0.0031925399	-0.981615	3.2878e-01
highest_point:period	-0.000001553	0.0000016613	-0.934699	3.5231e-01

Output of the OLS Model Serving as a Robustness Check

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

CONCLUSIONS & LIMITATIONS

A department hosting the Tour de France at least 3 times during a given 4-year period shows an **average increase of approximately 2% in GDP per capita over time**. This is consistent with the study by Makkonen and Mitze (2023), who also concluded that hosting the Tour de France has a true impact on the economy.

This study had some limitations that must be acknowledged, too:

- Data are not available monthly or at a local scale.
- Some econometric assumptions are very tight in this context.

REFERENCES

- Gjersing Nielsen, C., Nygaard, A., Eske, M., & Storm, R. K. (2022). *Does Hosting the Tour de France Yield Tangible Benefits?* (Working Paper). Unpublished.
- Makkonen, T., & Mitze, T. (2023). Vive le Tour!? Estimating the place-based benefits of hosting the Tour de France. *Journal of Regional Science, 63*(5), 1131-1161.

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