

Advisor's Report on Dissertation Thesis

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Title of the Thesis:	Essays on Weather, Crime and Productivity
Type of Defense:	DEFENSE
Date of Pre-Defense	December 17, 2025

Address the following questions in your report, please:

(Note: The report should be at least 2 pages long.)

The dissertation investigates the effects of weather on certain types of human behavior, namely on crime and on player productivity in professional team sport. The three essays connect the environmental economics with the economics of crime and with sports economics. Essay 1 presents a meta-analysis of the effects of higher temperatures on homicides across the globe. Essay 2 is a micro-level analysis of the effect of short-term variations in temperature and rain on crime using local, high-frequency data from Czechia. Essay 3 investigates similar weather effects on very different outcomes in a very structured, high-stakes context – various measures of team productivity in professional soccer in 10 different countries and the Champions League.

All three essays have been accepted for publication in solid impact-factor economics journals (see point d)). Numerous comments and suggestions from myself as a supervisor, journal referees and from pre-defense referees have been incorporated. The final dissertation represents solid micro-empirical work both in terms of appropriate methodology and presentation.

a) Can you recognize an original contribution of the author?

Each essay represents the author's original work. Essay 1 is the first meta-analysis of the literature on weather and homicides. Essay 2 brings the first estimates of the weather-crime relationship in the Czech context. Essay 3 brings novel analysis both into the environmental economics literature (by investigating the weather effects in the context of professional sports) and the sports economics literature. The findings in all essays are non-trivial and not readily expected: the effect of temperature on various crime categories and productivity measures are rather complex, non-uniform and non-monotonic.

b) Is the thesis based on relevant references?

Each essay is well placed into the existing literature, provides a comprehensive literature review, and the contribution is succinctly stipulated. The interdisciplinary richness of the cited literature adds value to the thesis (and I hope it will enhance citations of the published papers).

c) Is the thesis defensible at your home institution or another respected institution where you gave lectures?

Yes, the thesis would pass at CERGE-EI, for example.

d) Do the results of the thesis allow their publication in a respected economic journal?

This question has already been answered by the editors of three respected economics journals.

- The 1st essay has been published in the *International Review of Law and Economics*.¹
- The 2nd essay has been published in *Applied Economics*.²
- The 3rd essay has been published in *Kyklos*.³

e) Are there any additional major comments on what should be improved?

Let me use this space to comment on how the author addressed the comments on the pre-defense version of the dissertation, raised by myself and the pre-defense committee.

My pre-defense comments:

- Formal error (ordering of chapters in the body and in the abstract):* Corrected.
- A possible confounding effect of weather on police activity, crime reporting and the clearance rate:* The author adds a table A3.37 which estimates the effects of temperature on the clearance rate, and discusses the results and implication at the last 10 lines of page 52. The effects are zero or negative (but very small), running counter to the objection that the positive relationship between weather and crime is driven partially by higher police activity or reporting. Here, a little deeper theoretical discussion is warranted. The author should have first briefly laid out possible mechanism through which temperature and clearance rates could be positively or negatively related, and whether and how either possibility may confound the main estimates of the effect of temperature on crime rates. (I sketched such mechanisms in my original comment ii)). Then, the zero and negative effects should be interpreted through these theoretical mechanisms.
- When summarizing the results of the 3rd essay (sec. 4.6) there should be a qualification that the estimates of the temperature effects are limited to the observed temperature ranges, where almost all observations exhibit rather mild temperatures (games played in 30C or above are very rare).* I do not see this point being reflected in the text.

¹ Mišák, V. (2024). Does heat cause homicides? A meta-analysis. *International Review of Law and Economics*, 78, 106191. <https://doi.org/10.1016/j.irle.2024.106191>

² Mišák, V. (2026). Exploring the mechanisms between weather and crime: insights from the Czech Republic. *Applied Economics*, 1-17. <https://doi.org/10.1080/00036846.2025.2590633>

³ Mišák, V. (2025). Temperature and Productivity in Soccer. *Kyklos*. <https://doi.org/10.1111/kykl.70029>

Comments raised by the pre-defense committee:

- iv) *There was a discussion about the meaning of productivity measures used in the 3rd essay. For example, a change in the weather may induce a change in the player's effort or accuracy of their plays, but this applies to both offense and defense. Such opposing changes may partially or fully offset in the indicators such as total shots or passing accuracy. The author qualifies this issue in the discussion on page 93, 2nd paragraph, emphasizing that "productivity" should be understood as a reduced-form, audience-oriented concept rather than a measure of individual output.*

Comments ii) and iii) can thus still be addressed in the final version. Also, there are several extremely long paragraphs that should be split (pages 52,92, 117). Note, that all of these issues are indeed minor.

- f) What is your overall assessment of the thesis? (a) I recommend the thesis for defense without substantial changes, (b) the thesis can be defended after revision indicated in my comments, (c) not-defendable in this form.

I recommend the thesis for defense without substantial changes.

Date:	February 25, 2026
Advisor's Signature	
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