



Upcoming Seminars

Wednesday, 24.1.2024

12.15-13.15

AWI room 00.010

Internal Seminar

Johannes Resin

"Quantile-based decompositions of statistical distances with economic applications"

Abstracts

Internal Seminar

Johannes Resin

"Quantile-based decompositions of statistical distances with economic applications"

Statistical distances (or divergences) are a popular tool to quantify differences between probability distributions. We propose a decomposition of such distances into interpretable components attributing the overall distance to differences in location and dispersion between the distributions. We focus on distance measures that admit a representation in terms of quantile functions such as the Cramér distance (or integrated quadratic difference) and the Wasserstein distance (or area validation metric). Our new decomposition sheds light on differences between the investigated divergences: The Cramér distance tends to emphasize differences in location, while the Wasserstein distance is strongly influenced by differences in dispersion.

Throughout the talk, the decompositions and their properties are illustrated through examples and graphical displays to provide an intuition behind the underlying theoretical concepts. We discuss connections to proper scoring rules and the evaluation of probabilistic forecasts along with an application to climate predictions. Finally, we apply the decompositions to results from a study on household survey design by Becker et al. (2023), which supports their findings.

New Working Papers

Florian Diekert, Timo Goeschl, and Christian König-Kersting: "The Behavioral Economics of Extreme Event Attribution", *AWI Discussion Paper Series* No 741, January 2024.

Clive Bell: "Rural Roads and National Welfare: Are 'Local' Methods of Evaluation Satisfactory?" *AWI Discussion Paper Series* No 740, December 2023.

Editorial deadline for issue 04/2024 of the newsletter:
Wednesday, January 24, 2024, 12 p.m.
newsletter@awi.uni-heidelberg.de