A Course on Specification Testing

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Presentation:

This course offers a unified approach to testing restrictions on econometric models. We present alternative methodologies for testing the functional form of distribution and regression functions, which are applied to testing other restrictions on the distribution and regression function, like different types of independence, symmetry or monotonicity. Power properties of the tests and improvements in the direction of local alternatives are discussed. Slides will be distributed. The list of references below is not exhaustive. I just provide the references cited during the course. Evaluation is based on a final exam.

Contents of the course:

1. Motivation & notation.
2. Goodness-of-fit tests for distribution functions.
3. Specification testing of regression models.
4. Estimated parameters.
5. Power issues: Smooth and optimal tests.
6. Tests of lack of correlation, mean independence and independence.
7. Tests on shape constraints: symmetry and monotonicity.

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