One week course in Meta-Analysis for Economists

The course is meant for PhD students and other graduate students with solid background in econometrics. Duration 6 double lectures and 6 hands-on working sessions, concentrated in the last week of January 2014.

The idea of the course is to teach the students to do a meta-analysis. It hence covers all steps from the literature search to the statistical analysis, but not the coding that is very labor intensive.

Content:
Consider the body of literature that pertains to study a certain parameter, $\beta$, where $N$ estimates, $b_i \approx \beta$ have been reported. $N$ is often substantial, such as 500. These estimates are reached by regressions on models that have some formal similarity, but have many differences that can be coded. Most members of the $N$-set of estimates are statistically significant. Even then the $N$-set always shows substantial variations, and it often has a puzzling distribution.

Meta-analysis is a quantitative method to do three things with such $N$-sets: (i) It studies the distribution of the estimates to look for biases. It is done by the funnel-representation of the distribution, where asymmetries are taken to indicate biases. (ii) It extracts the best average from all the estimates. This is done by MRAs, meta regression analysis, where the FAT-PET MRA adjusts for censoring asymmetries. (iii) It tries to explain the variation in the results.

The practical analysis:
We will use data sets posted at the Meta-Analysis Data Repository. I will use stata in illustrations.

Teaching material:
Paldam, M., 2013. How do partly omitted control variables influence the averages used in meta-analysis in economics? Econ WP 2013-22

**Preliminary plan:**

Monday: Main ideas and the nitty-gritty
   Lecture: Intro + literature search and coding

   Exercises in the afternoon: The groups should make an independent search for the XX literature: 3 hour search + 1 hour comparison: Did you find the same?

Tuesday: Level one of the analysis – the robust part.
   The tools and the concept of publication bias.

   Exercises in the afternoon: Study a data set from the depository: Make replication. Study path over time. Divide in middle (time-wise) and make analysis for both parts. Compare PET and PEESE estimates. Start of robustness study. Define pivotal point where the result is different, when it comes to policy advice.

Wednesday: Level two of the analysis – research needed
   Analyzing the width of funnels, and POCs, partially omitted controls. Adjusting for omitted/included variable bias. Conclusion on the findings of meta-analysis: How common are biases?

   Exercises for rest of week: Study robustness to paper deletion and introduction of random coding errors. Study what it takes to get over the pivot.

Monday next: Hand in 15 pages to me.

Assumption: 15 participants: 5 groups of 3.

ECTS points: 5