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1/7/2020

Structural Estimation HW 1, Part 2: Structural Estimation vs. Reduced Form Estimation

After reading what Michael Keane and John Rust had to say on the subject, I think it is safe to say that there are definitely room for both structural and reduced form models in the world of economics. As Rust said in “Comments on...” (4): “The question should be framed as: ‘does your model fit the data better and provide more accurate out of sample forecasts than any other competing model’”. Even considering the risk of using a misspecified model, I believe the most interesting model has to be the one that does the best job of providing a reasonable simulation of the forces at play (proven by superior fit/accuracy). The fact that the model performs better should at least sometimes outweigh the possibility of a specious explanation of the underlying model. You can achieve an improved model (that probably looks pretty similar mathematically) by more accurately specifying your operative model but in the meantime you are working with a model that simply performs better. This is especially important in cases when predicting accurately is the biggest consideration.

But what about when simply understanding the underlying forces motivating a particular phenomena is the main point of interest? In research, I would argue structural estimation methods would be the key, or at least the ultimate goal in understanding a phenomena for which a nuanced model and not a simple linear relationship best describe the dynamic of the phenomena. However, in practice, if we do not have a structural model that yields very impressive results, or if we do not have an interesting body of work to relate our model to and perhaps gain more insight, it would be prudent to simply favor the most predictive model and be very careful about what you take away from your project.

One last thing I'd like to draw attention to is the Keane's statement that "all empirical work in economics...relies critically on a priori theoretical assumptions" (3). This stood out to me as a very poignant reminder of the limitations of strictly statistical analysis. A consideration I walked away with after reading was: on top of favoring the model that predicts more accurately, we should consider the explicit or implicit assumptions of our model and further study any assumptions that do not make sense (or reject models using assumptions we know to be false).