

Problem Set 1

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In Keane (2010) and Rust (2010), the authors showed their mutual preference toward structural estimation. After reading these two papers, I have better understanding in the structural estimation and I was persuaded that the structural estimation approach should be treated equally as the reduced form estimation approach when conducting the economic research.

Firstly and the most importantly, I think a priori theory or a priori theoretical assumption is necessary for an economic research. Just as the draft lottery number example provided by Keane (2010), if an empirical economic research does not have a priori theory, then it is impossible for the researchers to give convincing and reasonable interpretations to the empirical results obtained in the research. The presence of structural estimation makes sure that we will not deviate from the actual question that we are interested in.

In addition, the instrumental variables approach will not always work. The Keane (2010) provided us two cases to illustrate this point of view. The first case is the non-existence of the possible instruments. The other case is the presence of heterogeneity. In the first case, it is obviously that the researchers have no choice but to use structural estimation. In the case of heterogeneity, if the researchers continuously use the instrumental variables, then the empirical results they obtain are very likely to be inaccurate.

Moreover, from both Keane (2010) and Rust (2010) we know that both structural estimation and reduced form estimation require some priori assumptions in order to do the empirical work. To be specific, Keane (2010) mentioned “From (4), we see that..... First, because.....second, because it enters.....for time and goods inputs.” to demonstrate that reduced form estimation also requires priori assumptions. Rust (2010) also mentioned “It is far from clear to me.....than parametric assumptions” to strengthen the above argument of Keane (2010). Therefore, I think it is not appropriate for people to criticize structural estimation from the aspect of using many assumptions.

Even though I agree with most of the arguments from Keane (2010), I think it is not appropriate to completely deny the contributions of reduced form estimation. In the section 8 of Keane (2010), the author mentioned “The structural approach of viewing the data.....has generated success in other sciences, while an atheoretic approach is not”, while the Rust (2010) mentioned “If others are comfortable with statistical approaches, by all means they should use them. What’s wrong with letting 1000 flowers bloom?”. In my opinion, we should learn from the attitude of Rust (2010) to allow others to be different from us since the interactions of the different thoughts are the reasons why human society can make a progress.

References

Keane, Michael P., “Structural vs. Atheoretic Approaches to Econometrics,” *Journal of Econometrics*, May 2010, 156 (1), 3–20.

Rust, John, “Comments on: ‘Structural vs. Atheoretic Approaches to Econometrics’ by Michael Keane,” *Journal of Econometrics*, May 2010, 156 (1), 21–24.