Structural Estimation: The Higher Cost

The main author of the paper "Structural vs. atheoretic approached to econometrics", Michael P. Keane, refutes what he argues is a widespread believe in the economics field. Keane challenges the claim that structural estimation relies on too strong statistical assumptions as compared with empirical or atheoretic work. He points out that it is necessary for both structural and empirical work to rely on several assumptions to arrive at meaningful conclusions. As an example of this, Keane draws attention to a study conducted by the experimentalist Joshua D. Angrist and shows that absent of a theoretical framework it is hard to interpret results obtained from an experimentalist approach. Angrist looked to estimate the impact of military service on individuals' earnings in Vietnam by using randomly assigned lottery numbers as an instrument, but Keane stresses that exogeneity assumptions are always a priori, and that interpretability is prior to identification. The main author also highlights that in a structural approach parameters have a clear interpretation. Additionally, Keane offers that there exist cases where no possible instruments are viable and poses the inter-temporal elasticity of substitution in a "standard" life-cycle labor supply model as an example. The main author also points out that structuralist should do a better job at exploring the validation of structural models and offers the fact that implementing structural models is comparatively more difficult as a reason for its limited utilization. The later point is reinforced by John Rust, who expresses his agreement in labeling the difficulty of structural models as a cause for its limited use. Furthermore, both Keane and Rust highlight that significant contributions to knowledge can be made by implementing a structural approach.

Although I do agree that there are certain circumstances under which structural methods are the only alternative possible, it seems to me that Keane and Rust underplay the idea that structural approaches are harder and take more time and effort to pursue. When conducting research, there is always the risk that one may be carrying out research that would ultimately produce limited insights. In light of this risk, it would be natural to question whether a plainly more difficult approach would be advisable. If for a specific research objective both structural and empirical methodologies offered the possibility of seemingly promising (or unpromising) results, then I do believe that the fact that empirical work tends to be less costly is a strong argument to pursue it over structural work. I believe that the limited utilization of structural methodologies should not be taken as an unwarranted shift in the research paradigm, but rather it could be understood as a market response reflecting that structural work has a higher cost than empirical work.

I contest Keane and Rust's portrayal of empirical work as efforts that have less to offer when looking to make significant breakthroughs in the economics field. I do think that pieces like 'Freakonomics' spur a large number of questions which could be translated into research objectives. One should not underplay the value of such production. Perhaps it is the case once a new research objective is conceived, economists will realize that the topic at hand should really be addressed by employing structural approaches. However, this evaluation can only be made after a potential research objective has been developed, keeping in mind that if both structural

and atheoretical approaches offer comparable insights one should employ the less risky alternative of empirical work. Furthermore, it is also plausible that empirical work produced work that will greatly inform decision-making processes, such as policy formulation activities, at which point I would argue it could be as valuable, if not more, as structural approaches.

In short, although I agree with Keane and Rust's claim that structural work is necessary and can have advantages over empirical work, I believe that the limited use of structural work may not be unwarranted. It may be the case that the limited use of structural approaches is only the reflect of a higher marginal cost of implementation relative to empirical approaches, in which case economic theory, which both methodologies use, tells us that the more costly alternative will tend to be used less. If one is skeptic about the claim that empirical work in the structural realm is inherently better, then there is no a priori reason to expect that most researchers will pursue structural approaches more widely. It is expected that since the marginal benefit of structural research must be higher in expectation than the benefit of empirical work, structural research will tend to be lower in quantity than structural work.