Angrist (2011)

Summary:

Differences in effectiveness between urban and non-urban charter schools are primary focuses of their analysis. Using 2SLS method, they find that urban charter schools have a positive effect on student's grade while non-urban charter schools have a negative effect. Then they try to find the reasons behind this. First, they focus on student level explanation. They use treatment and non-treatment counterfactual analysis by accounting for student demographic and find that urban charter schools are more effective for minorities. Second, they employ the method of a combination of matching and regression and find that school specific characteristics are important in explaining the difference in effectiveness and No excuse instruction approach can account for the advantages of urban charter schools.

Methodology:

(1) Strengths:

- The method is easy to implement and instrumental variables here are easy to construct. The combination of matching and regression method in part IV is creative since it can control for observed differences between students.
- The authors do not need to worry too much about economic theory and complicated economic interactions among agents. Building a structural model here is very hard and will be very complicated.

(2) Weakness:

- Suffer from omitted variable bias: In 2SLS estimation in part II, the results show that urban charter schools are more effective. However, it does not control for urban and non-urban differences. It is possible that the differences in effectiveness of the school due to the area differences. If you are in urban area, then you have more study resources, for example, museums, public library and so on. In addition, they do not control for family environment such as parents' job, income, marriage conditions and education levels. I think community environment is also an important factor in student learning. For example, whether

it is safe or not, or whether the community encourages learning, or whether they are surrounded by good peers.

- The results are not reliable. The authors focus on school level and student level factors. But the family conditions and area differences are also important factors, so the estimation results can be biased.
- Another question I have is that why the authors do not simply combine individual and school level characteristics together and do 2SLS estimation? It can be easier.

Contributions:

First, the authors break down charter schools into two categories: urban and non-urban charter school. Second, the authors here provide explanations for why urban charter schools are more effective from two perspectives: one is student level factors; the other is school level factors. This makes a great contribution to the literature since most literatures focus on traditional urban charter schools and this paper focuses on both urban and outside the urban area. In addition, this is a comprehensive analysis for the heterogeneous effects for charter school.

Robin (2012)

Summary:

The authors first build the search and matching model for labor market with heterogeneous agents by incorporating productivity shock. They hope that in equilibrium, the model can be consistent with data on employment dynamics and wage dynamics. Then they apply method of moments to estimate the structural model. They find that the model does a pretty good job at fitting the data and there is a strong evidence of sorting. Finally, they go further and investigate the impact of search frictions and labor market policy. They find that mismatch is an important source of inefficiency and minimum wages can improve welfare only if they can address the externalities induced by search frictions.

Methodology:

(1) Strengths:

- The structural model shows the theoretical relationship among economic variables explicitly. From the model, readers can clearly see the matching process, how workers make job choices to maximize surplus and so on. The model tries to mimic what has happened in real world. It makes full use of the theory. And you don't need to worry about how to solve endogeneity problem or find a good instrumental variable. In contrast, reduce form method does not have such advantages. From regression equations, it is difficult to identify clearly the theoretical relations among variables.
- The parameters have direct economic interpretations and the authors can assess what kind of role of each parameter has played in each decision process. In equilibrium the authors can also do comparative statics for endogenous variables based on estimation results.
- It is easy to implement welfare analysis and policy analysis. For example, the authors want to investigate the impact of search frictions, so they compare a frictionless economy and an economy with frictions. They also show the welfare gains from an optimal unemployment insurance policy. This exercise is difficult to do with reduced form method, since the regression results are from real data. They won't be able to compare two different economies based on one data set.

(2) Weakness:

- The structural model is based on economic theory and imposes many assumptions. In contrast, the regression method imposes fewer assumptions. Regression is relatively easy to implement, while coming up with a good structural model based on economic theory is really hard.
- Ad hoc function forms. For example, before they do estimation, they specify a CES production function. However, the production may not be constant elasticity. I can understand that CES assumption can make estimation easier but it may affect the precise of estimators. In contrast, reduced form method does not suffer such problems.

Contributions:

The theoretical model is the famous macroeconomic model: search model for the

labor market. Different from the calibration method used by macroeconomist, here they use structural estimation method. This is an innovation of this paper since they provide a bridge between macro model and micro-econometric research.

Conclusion:

Both are well written and insightful papers. I really enjoy reading these papers. These two papers do a really good job in answering their primary questions even though they are not perfect. They use different approaches to answer different questions. Both approaches have advantages and shortcomings. There is no perfect methodology.

Choosing a suitable approach should base on the primary questions to be addressed and the feasibility of the approach. In Robin (2012), the search and match model for labor market is very well developed and has been recognized by economic researchers widely. There is a solid theoretical foundation for the authors to answer their questions. So structural model in this paper is easy to build and interpret. As what the authors have done in Robin (2012), they just modified the classical search model by incorporating the productivity shock, heterogeneous agents, and wage contract to make the model more realistic so that the model can fit data well. In a word, standing on giant's shoulders to do research is much easier than creating new things.

They can also use regression estimation method, but the most difficult problem to be addressed is the endogeneity problem. Even if they build up the model, they may not be able to find good instrumental variables. So they won't be able to answer the questions you are interested in. Additionally, using regression method to address the effects of labor market imperfections and labor market policy is not a new and innovative topic anymore. There are many literatures tend to address such questions by regression analysis. The most innovative part of the paper is combining structural model with micro-econometric estimation. So applying structural estimation in this paper is a wise choice.

For Angrist (2011) paper, building a structural model is much harder to explain the effectiveness of charter school. I would expect that in order to build a solid structural model, they need to incorporate heterogeneous students and heterogeneous schools into the model and they have different utility functions or objective functions. The charter schools also have cost function. So the structural model can be very complicated and difficult to estimate. Is there any economic theory for school choice or related to effectiveness of school operation? If there is no such theory, then it will be much harder for the authors to build structural model and this approach may not be feasible. The regression method they use is easy to implement and give the similar insights. I would not expect there will be much difference in results if the authors use structural method. In sum, the regression method is labor saving and effective.