What is Equitable vs. What is Fair: Including Transitioning Economies in International Climate Economic Policy

Through my dissertation, I would like to compare the social and economic impacts of two international climate agreement approaches: (1) a distribution of economic responsibility based on "equity," and (2) a distribution of economic responsibility based on "fairness." To further analyze the "equity" and "fairness" cases, I will address how the following issues augment the social and economic welfare of households in transitioning economies: Interaction of national and international policies, and uncertainties associated with the measure and distribution of benefits from reducing emissions.

In both the equity and fairness cases, it is possible that in addition to an internationally mandated reduction system, such as cap-and-trade or carbon tax, the transitioning economies may implement supplementary domestic policies to generate additional emissions reductions. Often, these supplementary policies reduce the overall cost-effectiveness of the international emissions reduction scheme and produce an emissions leakage. For example, while the United Kingdom participates in the European Union's Trading Scheme, it has implemented an additional domestic carbon tax. Although the local air pollution reductions are a co-benefit for the UK, the carbon tax is indirectly subsidizing the emissions reduction efforts of the EU countries. Adding complementary emissions reductions policies violates the goal of cost-effectiveness and generally obfuscates the true social cost of carbon. In this way, it will be important to include case studies of one or two specific countries that have existing environmental policies and discuss how inclusion in an international environmental policy based on equity or fairness will impact the cost-effectiveness and efficiency of both domestic and international emissions reductions.

There are uncertainties associated with the value of benefits from reducing emissions. Because the damage curves associated with different climate change scenarios are convex, the best policy option will change depending on whether the central value or average value of damages is applied. In this way, I am interested in how modifying the value of damages will affect the cost-effectiveness of the equity and fairness cases. There are also uncertainties associated with the distribution of benefits, as global gains from emissions reductions are not evenly distributed. Depending on how the simulated climate model forecasts the distribution of climate damages, it is possible that economically advanced countries will *experience* the most damages while economically transitioning countries will *compensate* these damages. While this scenario is theoretical, it is clearly neither a practical nor an ethical solution; therefore, I am interested in further examining how varying the distribution of impacts will alter the overall cost-effectiveness, efficiency, and political feasibility of the equity and fairness cases.

In 1990, the Kyoto Protocol established a Multilateral Fund for developed countries to finance incremental compliance costs for developing countries. This fund effectively set a legal precedent that developing and transitioning countries would not be economically responsible for participating in international climate policy. In the decades since then, there have been several economic research papers arguing that these countries should not rely on this fund, which is insufficiently endowed; rather, they should be prepared to engage in and finance international climate policies.

While there are several economic studies identifying reasons for transitioning economies to participate in international climate policy, they focus on the macroeconomic scale—broadly estimating the aggregate costs and benefits on a national scale. I am compelled to focus on the microeconomic impacts that will affect the social experience and economic decisions of average households because these are the impacts that will galvanize citizen activism in transitioning economies in favor of international climate policy.