

## Introducing Carbon Taxes in Pakistan: A CGE Framework

Topic: 714C Special session: Computable General Equilibrium Modeling for Policy Impact Analysis

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Pakistan is one of the most vulnerable nations from climate change, which is visible in its changing crop cycle, monsoon patterns, severe weather events, and frequent natural disasters such as earthquakes and floods. Pakistan suffered the economic losses of around USD 15 billion during floods of 2010, 2011 and 2012. The severe flood in 2010 was the worst in Pakistan's history, around 20 million people suffered and more than 300,000 people were displaced. In June 2015, the country was hit by severe heat waves which resulted in a loss of more than 1,500 lives. Just two months later, the severe floods devastated homes and the agricultural fields. The Climate Risk Index for 2014 describes Pakistan as the 5th most affected country in 2014. To overcome these vulnerabilities, the Ministry of Climate Change has challenging objectives. Goal of Pakistan's climate change policy is to ensure that climate change has a mainstreamed position in the not only economically, but also socially vulnerable sectors of the country based on a climate resilient development. However, in the fiscal budget for the financial year 2016, the Ministry of Finance has allocated only USD 0.01 billion (0.02% of the total budget) for environment protection. With this inadequate environment protection budget, it looks impractical to secure such big ambitions set by the Ministry of Climate Change. Hence, the objective of this study is to reexamine Pakistan's environment protection policy through micro and macro lenses. For this purpose, this study uses a modified version of the GTAP-E model to assess the potential economic effects of introducing carbon tax in Pakistan. The empirical results of carbon taxing include macroeconomic effects and microeconomic ones.

Keywords: Energy, Environment, Carbon tax, GTAP-E model

JEL Classification: C68, D61, P35, Q43