

Climate Policy and Financial Markets

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ACADEMIC THESIS

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Abstracts

Chapter 1: Do Markets Trump Politics? Fossil Fuel Market Reactions to the Paris Agreement and the 2016 US Election

Are world climate policies ambitious? Environmentalists claim too little is being done. Industry argues policy is too interventionist and warns that stranding significant assets could lead to financial instability. We evaluate the impacts of global climate policymaking in an event study for two high-profile events, the election of President Trump and the Paris climate agreement, on the stock market value of energy sector firms. To identify the stock price changes due to the two events, we exploit the differential impacts of the events on fossil fuel and renewable energy firms. Using the impulse-indicator saturation method, we find that both events had large and significant effects on the value of renewable energy firms, positive for Paris and negative for the Trump election. The effects on fossil fuel firms have, as expected, the opposite signs.

Chapter 2: Climate Policy: Effects of the Trump Election on Fossil Fuel Commodity Markets

The unexpected election of Donald Trump shifted expectations on several dimensions, including lower corporate taxes, (re-)reform of the healthcare system, and changes to immigration and trade policies. Within the fossil fuel industry, environmental regulations were expected to be substantially weakened. Earlier work has shown that the election led to increased profit expectations among fossil fuel firms. This paper seeks to nuance the picture and understand whether Trump was expected primarily to help *mine* more coal or *burn* more coal. While both supply- and demand-side policies boost profits, they would have different effects on the futures market for coal. We use the differential impact of the touted changes in climate policy and other environmental regulations to identify the price changes due to expectations regarding the path of climate policy under Trump. Using event study analysis, we find large price effects in coal and natural gas futures markets. Over the 21-day post-election period, which includes the nomination of the Environmental Protection Agency (EPA) administrator, we observe cumulative average abnormal returns of up to -27% for coal and 19% for natural gas.

Chapter 3: Coordinated Carbon Taxes or Tightened NDCs: Distributional Implications of Two Options for Climate Negotiations

The focus of this paper is to study the distributional implications of two different ways of strengthening the Paris Agreement, either by incorporating carbon pricing or through tightening of the nationally determined contributions (NDCs), which outline national goals for greenhouse gas emissions reductions. We quantify a number of different burden-sharing principles that have been proposed by representatives from various countries. Our results suggest that both carbon pricing and tightened NDCs are viable mechanisms that are less extreme and therefore more acceptable than grandfathering, which favors the most fossil-intensive economies, or equal per capita allocation, which favors low-income countries that use less fossil fuel.

Key Words: burden sharing, climate policy, commodity futures, distribution, environmental deregulation, Environmental Protection Agency, EPA, equity, event study, fairness, impulse-indicator saturation, international climate negotiations, Paris Agreement, Trump

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