Lingnan University 嶺南大學 香港 Hong Kong

ECON DEPARTMENT OF ECONOMICS

Research Finding Seminar

"Study of the Green Paradox in Environmental and Resource Economics: Theories and Policies"

(in English)

Presenter:	**Ms. OSPANOVA, Aida (PhD Student)**
Date:	11 April 2019 (Thursday)
Time:	2:45 pm – 3:30 pm
Venue:	WYL314, Dorothy Y. L. Wong Building
Chief Supervisor:	Prof. LIN Ping (Professor)
Co-supervisor:	Prof. Adam WONG (Associate Professor)

Abstract:

Aiming to reduce the environmental damage and help to ensure the energy security, more and more attention has been paid to the development of the renewable sources of energy, such as solar, wind, biofuels, etc. Indeed, as expected by the World Bank, World Energy Outlook 2017, the demand for the fossil fuel, especially for the coal, would gradually decrease by 2040.

However, the non-renewable producers anticipating the decline in the demand for the non-renewable energy and the threat of the stringent environmental policies in the foreseeing future would respond by accelerating current extraction. This phenomenon in the existing literature is called the green paradox.

The purpose of this research is to contribute to the green paradox literature by studying the strategic behavior of the incumbent fossil fuel firms in oligopoly markets. In a two-period game-theoretical model with entry of renewable energy producers, I show that the emergence of the phenomenon of the Green paradox depends basically on two factors: the existing market structure of the incumbent fossil fuel firms and the amount of the existing resource stock. In particular, I find that if the initial resource stock is large enough, the entry of the new energy would not rise current emission under the monopoly market structure, but under the duopoly, oligopoly market structures, the entry might provoke green paradox.

My research further shows that under particular conditions, it is beneficial for the society to allow the existing fossil fuel duopoly to merge. Merger to a monopoly can help mitigate the problem of green paradox, thereby reducing the environmental damages in the first period of the model when renewable energy is not yet available. This research thus extends the existing literature of the merger control which considers exclusively competition issues and overlooked the possibility of green paradox. The merger of the incumbent fossil fuel firms may increase the long-term social welfare.

ALL ARE WELCOME

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