

THE HONG KONG POLYTECHNIC UNIVERSITY DEPARTMENT OF MANAGEMENT AND MARKETING

Departmental Research Seminar

Sustainable Mobility through Market Design: Evidence from China's Dual Credit Policy

By

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Date : 20 Jun 2025 (Fri)
Time : 10:30 am – 12 noon
Venue : M802, PolyU

Abstract

Passenger vehicle sales have been rapidly increasing in China, posing major challenges to energy consumption and environmental sustainability. In response, the Chinese government introduced the Dual Credit (DC) policy in 2017, a market-based regulatory mechanism designed to promote fuel efficiency and support the development of new energy vehicles (NEVs). The DC policy requires automakers to maintain a non-negative annual balance in two credit categories: Corporate Average Fuel Consumption (CAFC) credits and NEV credits. While the latter can be traded across firms, CAFC credits cannot. This asymmetry in credit trading is intended to encourage firms to innovate and shift their product portfolios toward sustainable mobility. To evaluate the policy's effectiveness, we construct a dynamic structural model of firm behavior that captures decisions related to participation in the NEV credit market, product offerings, and pricing. The model incorporates the interdependence between the NEV and internal combustion engine vehicle (ICEV) markets, the linkage between product and credit markets, and the intertemporal nature of firms' strategic responses to policy incentives. We address three key questions:

1. How has the DC policy affected NEV innovation and the fuel efficiency of ICEVs?
2. What are its implications for firm profitability and consumer welfare?
3. Can the market-based DC policy outperform direct subsidy policies in advancing sustainable mobility?

Our findings provide evidence on the effectiveness of market design in promoting sustainable mobility and offer insights into how market-based policies can shape innovation and welfare in transitioning vehicle markets.

Prof. Ping Xiao is an Associate Professor of Marketing and Assistant Dean (Teaching & Learning) at Melbourne Business School, University of Melbourne. Her current research focuses on societal-impact marketing, particularly the evaluation of government policies and regulations, and their interactions with marketing strategies. Her work has been published in leading academic journals, including *Journal of Econometrics*, *Journal of Management Information Systems*, *Journal of Marketing Research*, *Management Science*, *Marketing Science*, and *Production and Operations Management*. Prof. Xiao serves as an Associate Editor for the *Journal of Business Research* and is a member of the editorial board of *Decision Sciences*. Her research has received several honors, including being named a finalist for the John D.C. Little Best Paper Award and receiving the MBS Dean's Academic Excellence Award.

All interested are welcome.



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