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Department of Economics

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EDUCATION

Ph.D. candidate in Economics, Stanford University,
Expected Completion: June 2019

M.S. in Operations Research, Columbia University, 2013

B.A. in Mathematical Economics, Fudan University (China), 2011

DISSERTATION COMMITTEE

Prof. Frank A. Wolak (Primary)
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Prof. Lawrence Goulder
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RESEARCH AND TEACHING FIELDS

Primary field: Energy and Environmental Economics
Secondary fields: Industrial Organization, Public Economics

JOB MARKET PAPER

An Unintended Effect of Subsidizing Green Technology: Lessons Learned from California

This paper presents a previously unrecognized but important consequence of subsidizing green technology in the context of California residential solar market. I show that this market is characterized by many small and local solar suppliers as well as a few large solar suppliers. Large

firms advertise heavily and pursue primarily the environmentally focused consumers, whereas small and local suppliers have a limited ability to advertise and pursue primarily the economically focused consumers. Using rich micro-level data, I estimate how subsidies are apportioned between sellers and consumers among different seller-customer groups, and to what extent subsidies have stimulated adoption. The estimate is robust to a spatial discontinuity design. Contrary to many studies in the previous literature, I find very different subsidy pass-through among different groups. Large suppliers capture almost all the subsidy benefits whereas small and local suppliers concede the majority of the benefits to customers. Since customers have different motives to go solar and the solar market is opaque, endogenous matching of consumers and sellers causes this large variation in subsidy pass-through. Over half of the subsidies fail to reduce prices to consumers and encourage adoption. Instead, a large fraction of subsidies mainly yields rents to large solar suppliers to sustain their advertising-supported business model.

OTHER WORKING PAPERS

Air Pollution, GDP Tournaments and the Tragedy of the Commons

China's air pollution has been consistently severe for the past several decades. This is largely due to the fact that for a long time, the evaluation of local governors for promotion has been solely based on local GDP growth. To boost short-term local economy, local governors sacrifice environment qualities such as air quality. Starting from year 2013, the central government of China incorporated air quality into the evaluation system with the aim to mitigate air pollution. This paper examines whether this policy change has successfully incentivized local governors to reduce air pollution. The stylized facts of the fossil energy industry in China suggest that governors can easily move air pollution sources toward the provincial border so that they can maintain a good rank in the air pollution adjusted GDP Tournaments. I manually collect daily air quality data for 190 major cities in China from 2000 to 2016, and map them with local weather information for over 2000 stations across China. By utilizing a DID strategy, I find that the new policy causes cities on the border to be 30% more air-polluted in terms AQI than their counterpart cities that are far away from the border in the post-policy periods. This finding is re-confirmed by using wind direction as an instrument. These results are largely due to the "tragedy of the commons" effect. In extreme scenarios, the total volume of air pollutants could be even higher after the introduction of the political incentive change.

Floating or Not? Rural-to-Urban Migrants in China's Fragmented Social Security System

Low social security participation is a big issue in China. This paper investigates the extent to which the fragmented social security system in China affects social security participation, especially among the migrant population. By exploiting the fact that China is in the process of a gradual shift from a fragmented social security system to a consolidated nationwide system, I manually collect data on the progress of such reform at the provincial level, which hasn't been digitalized before. Using a Diff-in-Diff strategy, I estimate the response of social security participation to the centralization reform, which relies on the assumption that the reform roll-out is orthogonal to other factors that affect participation. I find evidence that in those provinces where the reform has finished at the provincial level, residents are 2.7 per cent more likely to enroll in social security programs. In addition, richer, older and more educated people are more likely to participate in social security. By controlling for demographics, I find that migrants are 4.5 per cent more likely to participate in the social security system if reform has happened compared with nonmigrants. Provision of relevant information about the reform also matters, though the effect is not statistically significant.

RESEARCH IN PROGRESS

Subsidy Scheme, Inter-temporal Price Discrimination and Optimal Purchasing Time

This project builds a multi-period structural model in a durable goods market with a monopolistic seller and a pool of forward-looking consumers who are heterogeneous in their search costs and price elasticities. By applying it to data, this model can be used to examine how possibly a discrete subsidy scheme can affect the seller's inter-temporal pricing strategy and consumers' purchasing time. The implications are that under certain conditions, a time-varying subsidy can assist the seller in exercising inter-temporal price discrimination, resulting in an increase in firm surplus and a decrease in consumer surplus. This model can quantify these effects and shed light on the welfare implications of subsidy policy counterfactuals.

Effects of Green Subsidies and the Green Party

This study aims to examine whether and how consumers' political ideology towards the environment may have affected the pass-through of green subsidies.

RESEARCH AND RELEVANT WORK EXPERIENCE

2014- Research Assistant for Prof. Frank Wolak, Stanford University.
2012-2013 Research Assistant for Prof. Fuhito Kojima, Columbia University.

TEACHING EXPERIENCE

2016-17 Teaching Assistant for Prof. Frank Wolak, Stanford University, Econ 121
(Social Science Field Research Methods and Applications).

SCHOLARSHIPS, HONORS AND AWARDS

2018-2019 SIEPR Dissertation Fellowship.
2014-2015 Second-year RA Fellowship.
2013-2014 Stanford Graduate Fellowship.

SEMINAR PRESENTATIONS

Energy Camp, Berkeley, 2018. C3E Women in Clean Energy Symposium, Stanford, 2016.

COMPUTER SKILLS

R, Python, Matlab, Stata, SQL, Latex, ArcGIS

Updated Nov 2018.