Low-speed Electric Vehicle Market Boom in China

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Research Question

LSEV Definition: Four-wheel Battery Electric Vehicles with a maximum speed around 40~70km/h (Subsidized BEVs require Double 100 Standards (Maximum speed over 100km/h, Minimum range over 100km))

Research Questions

- How is the LSEV market growing? Chinese market? Overseas markets?
- How fast is the growth? What is the spatial and demographic distribution?
- What characteristics of LSEVs are favored?
- Who is buying LSEVs? What kind of vehicles is it displacing?
- What regulations exist or are being created?

Emerging Market in China

LSEV markets without government subsidies are growing even bigger than PEV markets with huge government subsidies.

Top 12 bestsellers of LSEVs in 2017, among which two models are Lithium-ion battery.

Top 3 sellers in 2017

LEVDEO, Little Prince
Shifeng, D201
Dayang, CHOK-S

Spatial and Demographic distribution

- 72% LSEV purchasers are over 30 years old
- Mainly at rural areas, 3rd and 4th tier cities
- Mostly low income
- Mostly without driver licenses
- Mainly short distance of trips

Characteristics of LSEV products

- Low purchase, operational and maintenance cost
- MSRP 20,000~50,000 Yuan ($3,000-$5,000)
- Lead-acid battery mostly, Li-ion LSEV sales growing rapidly
- Max speed 40-70 km/h
- Range 100-220 km
- Charging 8-10 hrs for lead-acid battery
- No driver license required in rural areas
- Not satisfying vehicle crash safety standards

Policy Debate & Discussion

Policy Debate

- Central government vs Local government (regulate or encourage)?
- Register as Passenger vehicles or motorcycles or new category?
- Li-ion or lead-acid battery?

Discussion

- LSEV market is an emerging unregulated market with rapid growth and compact distribution spatially
- LSEV main users are elderly, low-income and rural area people; low price of LSEVs and no need for driver license is the main purchase incentives (based on interviews).
- HYPOTHESIS: LSEVs are displacing low-end transportation tools (bikes, e-2-wheeler, motorcycles, CRVs) to satisfy rural area people's increasing demand for better travel experience.
- The policy debate implies that central and local governments, different stakeholders have different interests and motivations, resulting in the slow and controversial policymaking

HYPOTHESIS: LSEVs are displacing bikes, e-bikes, China Rural Vehicles in rural areas.