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Electric scooter use: Lessons from Asian cities, prospects and challenges for Indonesia

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Abstract

This paper reviews the electric scooter (motorcycle) use in three countries viz., China, Taiwan and Vietnam and identifies the prospects for Indonesia. This review is based on published information in scientific journals and the prospects projected for Indonesia are based on a collective learning experience from other countries rather than as a result of the implementation of policy.

Towards the end of twentieth century, several Chinese cities have implemented regulatory measures such as suspending issuance of new licences, banning the entry of motorcycles/scooters to city centres, capping/auctioning of licence plates. These regulatory measures created favourable conditions for the promotion of electric scooters in Chinese cities. Weak enforcement of standards also helped the electric scooter market further which resulted in a boom in their numbers from a mere 56000 in 1998 to 21million in just 10 years. However the policy at regional level is inconsistent which makes the future of electric scooter uncertain in China.

Taiwan made a conscious effort persistently over a number of decades to promote electric scooters firstly to sustain the oil shock and then to improve the air quality in their cities. Instead of adopting a regulatory approach, they relied on subsidies as a strategy to promote e-scooters which was quite successful as the sales went up by 8.79 times (779% increase) from 1500 in 1998 to 13000 vehicles in year 2000. However, inconsistent quality and inadequate maintenance quickly dampened e-scooter sales that led to the suspension of the subsidy programme. In 2009 Taiwan revived the promotion again by addressing three key issues identified – cruise range/long charging time, durability of battery/high running cost and nationwide recharging network.

Vietnam has a high motorcycle population (>90% of total number of vehicles) and can potentially benefit from adopting e-scooters to reduce the air pollution. A stated preference experiment found that consumers are highly sensitive to fuel prices though they discount the fuel cost savings at much higher rates (up to 40%) due to the uncertainty involved. Superior technology of e-scooters is valued at VND 10 million which implies that if better technology is delivered at cheaper prices, the adoption rate will significantly improve. Finally consumers are willing to pay VND 1.64 million to avoid a sales tax of one million. This equates to reducing the recharge time by 3.5h or increasing the range by 90km. Thus incentivising the consumers is likely to help boosting the e-scooter sales by a significant margin.

Learning from the experience, Indonesia may develop an appropriate strategy to launch their e-scooter programme which is balanced between incentivising the consumers/manufacturers/ charging station operators and regulatory measures such as phasing out polluting internal combustion engines by raising the emission standards. Significant adoption rate in Indonesia will improve the air quality in Indonesian cities.