Link:
https://economictimes.indiatimes.com/industry/auto/two-wheelers-three-wheelers/electric-two-wheeler-sales-remain-tepid-despite-government-subsidy-icra/articleshow/80170115.cms

Article:

New Delhi: Sales of electric two-wheelers (e-2W) in India remains tepid despite government's subsidy and near-term outlook largely remains unchanged, according to ratings agency Icra. Under the three year tenure of FAME-II scheme -- FY20-FY22 -- e-2W sales have been only 2 percent of the targeted 10 lakh unit sales as on September 30, 2020 halfway mark, ICRA NSE - 0.90% said in a statement.

"The demand and volumes of e-2Ws have witnessed a very lackadaisical growth in recent years despite the government's thrust on adoption of electric vehicles (EV). Despite an unprecedented demand shock caused by the pandemic, the outlook for the e-2W remains largely unchanged in FY2021 due to a low base," the ratings agency added.

Citing a nationwide survey of 16 e-2W dealerships in November, Icra said the stringent eligibility criteria set for claiming the subsidy under the second phase of Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME-II), the Centre's flagship scheme, have been a deterrent - mainly due to a minimum localisation requirement and exclusion of lead-acid based e-2W for subsidy.

"In addition, lack of consumer awareness (regarding government subsidy), low acceptability led by lack of product knowledge and after-sales service concerns have been dominant reasons for the scheme's lacklustre performance," it added.

The FAME-II, scheme aimed to push faster electric vehicle (EV) adoption crossed the halfway mark of its three-year tenure (FY2020-FY2022), on September 30, 2020. However, it has managed to achieve only 2 per cent of its target (out of covering 10 lakh e-2Ws) sales during the period, Icra said.

Commenting on the situation, Icra Vice-President Shamsher Dewan said the e-2Ws segment was expected to witness faster penetration among all segments of the automobile market, given the favourable economics and limited reliance on a widespread charging infrastructure.

"However, e-2W sales vis-a-vis targets set under FAME II have been tepid so far, with the same constituting less than 1 per cent of total two-wheelers (2W) sold in FY2020 in India. While the e-2W sales reported a 21 per cent year-on-year (YoY) growth to 1.5 lakh units in FY2020 (first year of scheme) the number of e-2Ws which availed FAME-II subsidy plummeted," he added.

Dewan further said in the first half of FY21, the high-speed e-2W reported a 25 per cent (YoY) decline, primarily a result of the pandemic-led lockdowns. However, the sales data released by SMEV for the month of September 2020, which reported a 72 per cent YoY increase in sales of high-speed e-2W, augments the positive expectations of the dealers.

Announcement of EV policies by states and Union Territories like - Delhi, Telangana, and the Central Government's decision to allow sale of EVs without battery, could push growth in the near-to-medium term, he added.

Icra said while the practicality behind the FAME-II policy target of 10 lakh e-2Ws by FY2022 could be debated at this juncture, the COVID-19 pandemic has been an unpredictable variable which has altered all the best laid out plans.

"Although the increased preference for personal mobility, to ensure social distancing, bodes well for 2W sales in the near-term, the demand for e-2Ws could be impaired as consumers face income uncertainties," it added.

Nonetheless, the government's thrust on adoption of EVs, increasing awareness towards public health and clean energy continue to favour EV adoption in the long run.

Multi-level policy support such as demand incentives and policy push like firm transition date will be imperative for the same, Icra added.

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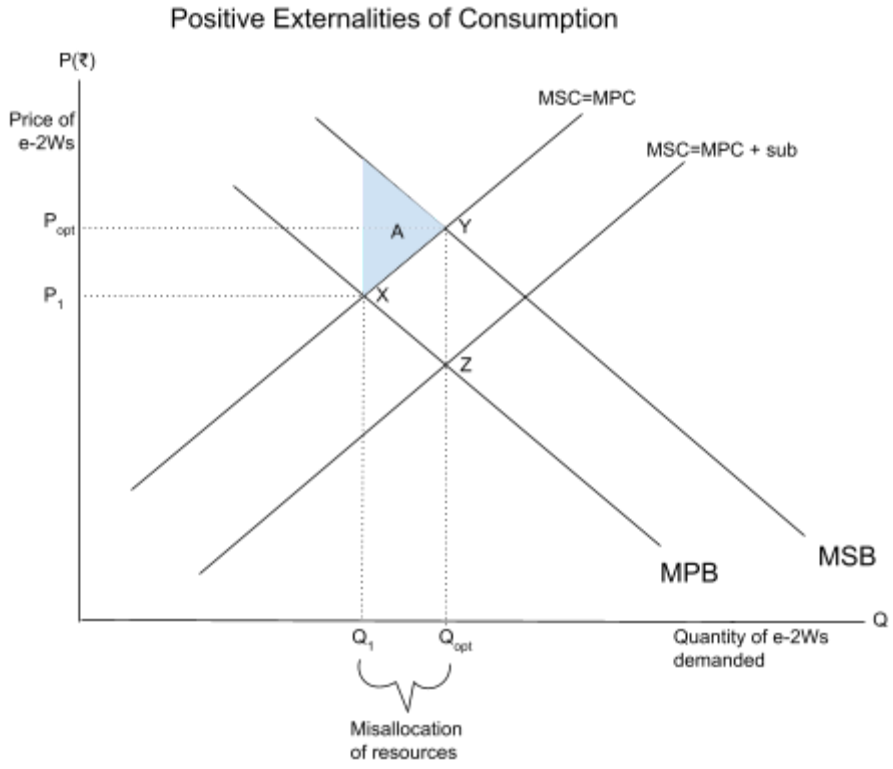
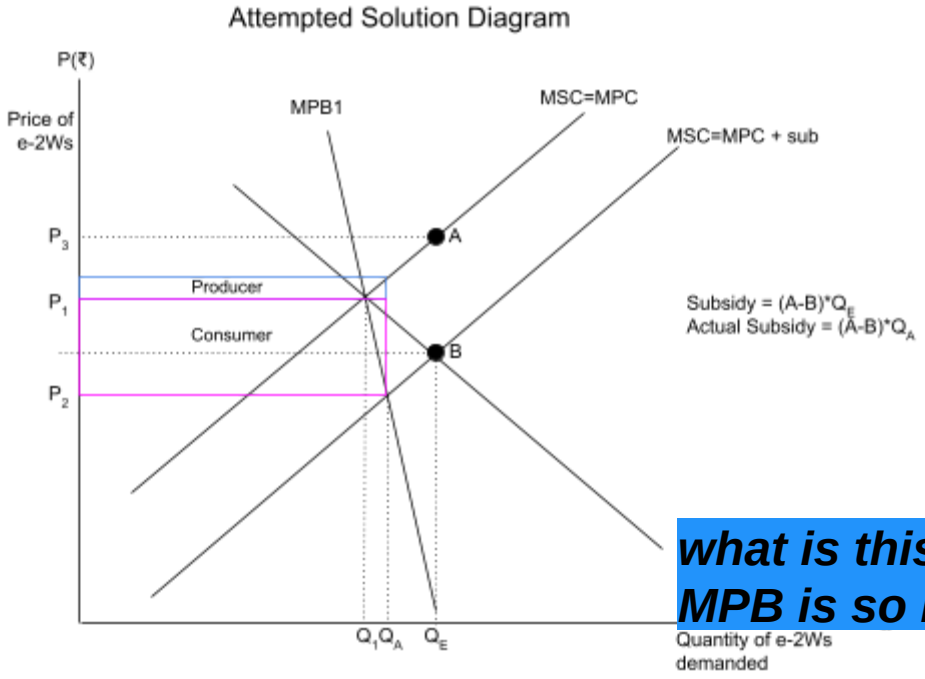
February 20th, 2021

Microeconomics Internal Assessment

The Indian government in 2018 announced a consumption subsidy on the purchase of two-wheeler electric vehicles (E-2W) to increase sales. A consumption subsidy is a predetermined amount of money given directly to consumers to marginally offset the consumption cost of a specific good or service. Consumption subsidy is prevalent amongst governments to encourage consumption of goods or services with positive externalities. E-2Ws have lower pollution and a lower carbon footprint and hence they fit the definition of a good with positive externality. The Indian Government's subsidy though did not have the intended effect as the actual consumption of E-2Ws fell far short of plan. The article covers reasons for this shortfall and this paper will analyze the intent of the subsidy and the eventual result from a microeconomic point of view.



The consumption of E-2Ws by an individual creates spillover benefits enjoyed by society. **X** represents the point where the private consumption demand line (MPB) meets the supply line (MPC/MSC). **Y** represents the point where the society demand line (MSB) meets the supply line. Y is the optimal point for the society where the higher consumption maximizes the benefit to the society. Area **A** represents the deadweight welfare loss resulting from quantity Q1 associated with private consumption being less than the optimal quantity Q_{opt} needed to maximize societal benefit. A government subsidy shifts the supply curve downwards by the amount of the subsidy. **Z** represents the new point where MPB meets the new subsidy-enabled supply curve (S2). As a result of the subsidy, the new quantity consumed, Q3, is closer to the optimum quantity Q_{opt}. Consequentially, the deadweight welfare loss has reduced from area A to area B.



what is this another line? why MPB is so inelastic?

Post the implementation of the subsidy, the actual private demand curve MPB1 turned out to be significantly more inelastic than the Indian government's expectations. **W** represents the point of interaction between the actual demand curve MPB1 and S2. The actual quantity consumed, Q_A, is significantly less than the desired Q_E. The division of the subsidy between the consumer and the producer is represented by area C and area P respectively.

The Indian government had set aside a subsidy to achieve the desired consumption quantity of 1 million ($Q_{Expected}$) E-2Ws. 'A very lackadaisical growth' resulted in an actual

how much subsidy?

consumption of 2 percent of the original 10 lakh goal. Subsidies also have an associated deadweight cost that is effectively the economic inefficiency of interference in a free market. Governments must choose these interferences carefully as they are funded typically through taxation. In the case of India's E-2W subsidy experiment, the inelasticity of demand for E-2Ws in the prescribed horizon represents a failure of the experiment. The inelasticity of demand is likely due to a variety of factors that are outlined in the article including lack of familiarity of E-2Ws, lack of charging infrastructure, and complexity of obtaining the subsidy.

The Indian government now has two paths to increase the consumption of E-2Ws to the desired quantity of 1 million units. The first option is to merely increase the subsidy amount further until the desired quantity is reached. This option is likely not an effective solution as the inelastic demand shows that the amount of subsidy needed will have to be extremely high, and comes with a high opportunity cost. Moreover, the subsidy will disproportionately benefit the consumer and not actually help the producer lower their costs. Governments placing a higher indirect tax on the price of petrol/gas/diesel to try and get the population to shift towards using EVs is also a viable option but one that also comes with a higher welfare loss and opportunity cost than implementing nudges on the population. A better option for the government is to spend to stimulate demand and increase the elasticity of the demand curve. This can be achieved by nudges, taxation of competing goods, and investing in better technology.

Because we are humans, we are innately fallible, and this means that we do not have enough knowledge or time to always make the correct decision in this complex world. This is why it is important for governments and authorities to correctly implement nudges in order to manipulate behavioral heuristics for the benefit of society and the environment. In terms of our case of electric two-wheelers, the government can make other parts of the process for buying the vehicles easier as well as bring more awareness to the population. A buyer's perception of EV technology is foreign; thus, to increase demand for EVs, awareness of the benefits of the consumption of EVs should increase along with making the buying process easy and without obstructions. Implementing this solution, along with time (long-term), will change the elasticity of the demand for e-2Ws to be more elastic and respond to the subsidy.

Analysis of this case of microeconomics shows that one method of increasing demand is not enough from a producer or government. Multiple methods should always be implemented simultaneously in order to achieve an outcome amongst the population. In this case of EVs, there

was a subsidy provided to consumers, but there was also a lack of awareness regarding the importance of buying EVs over gasoline vehicles. So nudges that increased awareness or educated the population along with the subsidy would have increased the demand for EVs much more than the standalone subsidy.

Works Cited

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