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# Assessing The Impact Of The FAME-II Policy On Domestic Electric Vehicle Manufacturing In India And Its Unintended Economic Consequences

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***Abstract:***
*This research study examines the "Faster Adoption & Manufacturing of Electric Vehicles" (FAME II) which was introduced in India, primarily aimed at boosting EV adoption. It was introduced in 2019 and operated until 2024 as the second phase of the FAME I policy. This paper is investigating the intended and unintended economics effects of the policy on electric vehicle sales, production and India's EV industry. The policy was implemented through subsidies and the creation of incentives for stakeholders, including firms, consumers and the government of India. By analysing data from official government reports and articles, the study found an increase in EV sales and production due to the FAME II policy. However, the data also indicated India's increased dependence on Chinese imports and adverse impacts on smaller firms arising due to subsidy delays. Moreover, it also recognizes the unequal benefits received from the policy across different states in India. Therefore, the study includes recommendations for future EV policies to make them more effective and equitable. It focuses on economic consequences, with an emphasis on market outcomes, excluding impact on employment levels.*

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## I. Introduction

**EV market in India:**

With 14 out of the 20 most polluted cities in the world located in India, its move towards the electric vehicles market is a vision to promote environmental sustainability. Currently, the transportation sector in India is dominated by internal combustion engines (ICE), which contribute around 13% of the total CO2 emissions. At this stage, India is a part of the global EV30@30 campaign, which aims to have at least 30% of new vehicle sales be electric by 2030. However, realising these ambitions is not without its challenges. India faces significant challenges, including inadequate infrastructure and high costs.

**FAME II Policy:**

To accelerate EV adoption and support domestic manufacturing, the Government of India launched the "Faster Adoption & Manufacturing of Electric Vehicles in India', FAME (Phase II)) policy. With a funding of Rs. 10,000 crore for five years, it commenced on 1st April 2019. It is being monitored by NAB (National Automotive Board) under the Department of Heavy Industries, Government of India. 86% of the total budget has been allocated to provide demand incentives for EV consumers. Its primary objectives include encouraging the adoption of EV/hybrid and zero-emission vehicles, promoting domestic technology for the development of EVs, contributing to the country's aim of a low-emission intensive economy, and reducing vehicular emissions. However, during its implementation, the policy has also produced economic consequences that have adversely affected India's EV industry.

## II. Research Question

This research study employs a comprehensive approach to showcase benefits whilst examining the economic trade-offs of the policy. Therefore, the research question it explores is: To what extent has the FAME-II policy of 2019 contributed to the growth of domestic EV manufacturing in India, and what have been its unintended economic consequences?

## III. Objectives Of The Study

In a bid to comprehensively answer the research question, the research sets out the following objectives:

i) Examine whether the FAME II policy helped in the growth of the EV industry in India.
ii) Figure out the unintended economic consequences of the policy
iii) Suggest recommendations to improve future EV policies

## IV. Literature Review

**FAME-I and FAME-II**

The FAME policy was carried out in two phases. According to Sangodkar (2021), the FAME I scheme started from April 1, 2015, and was initially approved for 2 years; however, it was extended to 31st March 2019. Phase I primarily focused on four key areas: demand creation, technology platform, pilot project, and charging infrastructure. After which, phase II was approved for 2 years as well, but got extended to 31 March 2024. Phase II focused on demand incentive creation and charging infrastructure.

Additionally, Verma (2023), in the article "EV incentive phase-out", argues that once the FAME-II policy ends, there will be a significant drop in EV sales. This is mainly due to consumers who only entered the market to receive FAME-II stimulus benefits. Once the schemes come to an end, so will the EV incentives, which will lead to significant problems for the EV industry.

**Economic effects of subsidy policies**

During its tenure, the FAME II scheme, to an extent, has led to a rise in the successful adoption of EV vehicles, especially two- and three-wheelers. However, it has had unintended consequences that have resulted in market distortion. According to a Business Standard article titled India's push for EVs may lead to entry of Chinese firms in the market (2024), India's growing reliance on auto component imports from China could facilitate the large-scale entry of Chinese firms into the domestic EV sector. Therefore, increased dependence is leading India into a trade deficit, which could undermine long-term industrial and economic resilience.

Furthermore, in the article "From FAME to deFAME: How an EV scheme turned into a rough ride" published in The Economic Times, it is reported that another repercussion has been subsidy misuse by larger firms, which has resulted in a significant drop in EV. Some larger corporations wrongfully declared components as local when, in reality, they were imports. Additionally, smaller firms have been dragged into the situation too, since delays in subsidy disbursal have led to working capital challenges, and many have been forced to shut down. The misuse of allocated funds was ultimately taxpayers' money and had an opportunity cost. Moreover, it has gone against the government's scheme that was set out to support local corporations, causing local brands to face losses.

## V. Results

**Impact on Domestic Manufacturing**

**Table no 1:** Shows the data for EV sales per year in India from 2019 to 2024

| Fiscal Year | Total EV Sales | Notable Trends |
|---|---|---|
| 2019 | 166,697 | Starting year- FAME II impact begins |
| 2020 | 124,635 | Slow adoption of EVs due to COVID |
| 2021 | 186,284 | Post-COVID recovery |
| 2022 | 1,023,990 | Major price drop in EV vehicles (due to FAME II subsidies) |
| 2023 | 1,522,176 | EV's were cheaper and drove consumer adoption |
| 2024 | 1,432,474 | Drop in sales due to delayed subsidy disbursal |

Table no 1 presents the data for total EV sales in India between 2019 and 2024. Initially, in 2019, when the FAME-II policy was introduced, the sales were modest, which dropped in 2020- partially due to COVID-19 disruptions. Highlighting that external supply shocks easily overpowered the policy and its incentives. The sales for 2021 show post-pandemic recovery and portray the true power of the policy, which remained gradual until subsidy effects kicked in. Financial incentives provided by the subsidy during 2022 and 2023 accelerated EV adoption and, therefore, its production. However, the delayed subsidy disbursal of the FAME II policy in 2024 caused structural weakness and led to a major drop in EV sales and manufacturing.

**Increase in Indian EV startups and factories**

The policy provides purchase incentives for consumers, subsidies for battery manufacturing, and funding for charging infrastructure. To access these benefits, manufacturers had to register under the scheme. Given below are the details of electric vehicle manufacturers registered under the FAME II scheme:

Electric 2 wheelers: Ampere Vehicle Pvt. Ltd., Ather Energy Pvt. Ltd., Benling India Energy & Technology Pvt. Ltd., Hero Electric Vehicles Pvt. Ltd., Jitendra EV Tech Pvt. Ltd., Li-Ion Elecktrik Solutions Pvt. Ltd., Okinawa Auto Tech Pvt. Ltd., Revolt Intellicorp Pvt. Ltd., TVS Motor Company Ltd., and M/s. Tunwal E-motors Pvt. Ltd

Electric 3 wheelers: Champion Polyplast, Kinetic Green Energy, and Power Solution Ltd., Mahindra Electric Mobility Ltd., Victory Electric Vehicles Intl. Pvt. Ltd., YC Electric Vehicle Pvt. Ltd, Best Way Agencies Pvt. Ltd., Energy Electric Vehicles, Thukral Electric Bikes Pvt. Ltd, M/S Saera Electric Auto Pvt. Ltd, Khalsa Agency, Goenka Electric Motor Vehicles Pvt. Ltd., Atul Auto Ltd., Dilli Electric Auto Pvt. Ltd, U P Telelinks Ltd, Piaggio Vehicles Pvt. Ltd., Lohia Auto Industries, Altigreen Propulsion Labs Pvt. Ltd., Keto Motors Pvt.

Ltd., Omega Seiki Pvt. Ltd., Speego Vehicles Co. Pvt. Ltd., Etrio Automobiles Private Ltd., Grd Motors, Om Balajee Automobile India Pvt Ltd, Scooters India Limited, Mlr Auto Ltd, Avon Cycles Ltd.

Electric 4 wheelers: Mahindra & Mahindra and Tata Motors

The subsidy created strong incentives for new firms and established EV automakers to invest further in EV production and assembly facilities in India. Several startups such as Okinawa Autotech, Ather Energy, Ola Electric, Revolt Motors, and WardWizard Innovations expanded production capacity, and companies like Tata Motors, Mahindra Electric, TVS Motor, and Hero Electric scaled up their EV lines. New factories were set up in Tamil Nadu, Karnataka, Gujarat, and Maharashtra, supported by both central FAME-II benefits

**Unintended Economic Consequences**

**Delayed subsidy disbursal**

To be eligible for the subsidy that the FAME II policy provides, several large corporations had wrongfully declared that their imported components were locally sourced. This unlawful practice was mostly in the two-wheeler electric vehicle sector because the manufacturers were dependent on Chinese imports. Once discovered, subsidy dispersal was put on hold until the corporations submitted the required documents. Altogether, 12 electric two-wheeler corporations were held liable for this malpractice, and the government withheld ₹1,100 crore in subsidy. This, in turn, led to lower sales, layoffs, and weaker cash flow. Additionally, corporations like Ola, Ather, TVS Motor, and Vida allegedly mispriced their electric two-wheelers to make them eligible for a subsidy.

**Impact on the economy: EV industry**

Two-wheeler makers faced a huge shortage of capital due to the delay in subsidy disbursal. Since these firms had already passed on subsidy benefits to consumers, they expected reimbursement from the government. The reimbursement process used to happen in 45-90 days; however, the subsidy delays caused these firms to reduce their production. Overall, it led to working-capital challenges for two-wheeler makers.

**Dependence on imports (especially on China)**

India’s efforts to scale up domestic EV manufacturing have been challenged by its heavy reliance on imports, especially from China. Reports suggest that this persistent reliance could lead to a large-scale entry of Chinese firms into domestic markets. Globally, China is dominating the EV supply chain as it holds 75% of the world's battery production capacity and more than 50% of global EV production and exports. The battery itself accounts for 40% of the cost of an EV, implying that India’s EV manufacturing ecosystem remains heavily controlled in terms of technological capacity.

The impact of this global dominance is evident in India’s EV sector. According to the Economic Survey of 2025, “India's auto component imports were USD 20.3 billion in 2022-23, of which 30% came from China”. Moreover, it notes that “India sources 75 per cent of lithium-ion batteries from China”. The data from the Ministry of Commerce states that between April and October 2024, China emerged as India’s largest import partner, with imports rising by 9.8 per cent to $65.89 billion.

The following table portrays India's Imports from China of Electric Accumulators. Accumulators are devices that store electrical energy for later use. The most common type used in the EV sector is the rechargeable lithium-ion battery. The data presented is found from the United Nations COMTRADE database on international trade.

**Table no 2:** Chinese imports of Electric Accumulators in India from 2019 to 2024

| **Year** | USD ($) |
|---|---|
| 2019 | 967M |
| 2020 | 768M |
| 2021 | 1.22B |
| 2022 | 2.25B |
| 2023 | 3.11B |
| 2024 | 2.89B |

The trend from Table no 2 suggests the rising dependence of India's EV industry on Chinese batteries. Despite domestic EV policies like FAME-II, local battery manufacturing hasn't yet matched demand. FAME II, introduced in 2019, aimed to boost local production; however, imports from China have grown about four times between 2020 and 2023. The economic consequences include a trade imbalance between India and China, due to India's trade deficit. Relying on China makes India's EV industry more vulnerable to price fluctuations, supply shocks, and geopolitical risks.

**Unequal benefits (urban area vs rural)**

According to the Vahan dashboard, the following 10 states: Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Bihar, Madhya Pradesh, Rajasthan, Delhi, Telangana and Kerala. Contributed to 73.7% of all electric vehicles sold in the country during FY 2024-25.

**Table no 3: Adoption of EV's in India during 2024 due to FAME II**

| State | EV Sales |
|---|---|
| Uttar Pradesh | 377,565 |
| Maharashtra | 246,250 |
| Karnataka | 173,624 |
| Tamil Nadu | 137,699 |
| Bihar | 113,644 |
| Madhya Pradesh | 107,258 |
| Rajasthan | 106,963 |
| Delhi | 83,488 |
| Kerala | 82,415 |

Table no 3 portrays the adoption of EVs in 2024 due to the FAME II policy, which is concentrated mostly in Tier 1 cities. The major reason behind this is the greater availability of charging infrastructure and the government's greater focus towards urban projects. On the contrary, rural areas lack charging station infrastructure and electricity access. Economic repercussions include greater inequality because urban populations benefit while rural populations might not. This could deepen the digital and mobility divide between urban and rural India.

## VI. Recommendations And Conclusion

**Recommendations**

To mitigate these economic repercussions, future iterations of the policy, such as a potential FAME III, could incorporate the following recommendations

**Improve subsidy processing times:**

This can be done through Direct Benefit Transfers; instead of subsidies going via manufacturers, they can be sent directly to the buyer's bank account at the time of purchase. Thereby cutting the delays caused by the middleman.

**Create incentives for research and development:**

Policies should allocate funds to incentivise domestic firms and research institutions to invest in innovation related to the EV industry. Along with this, supporting companies such as Ola, which have been researching in this sector, would strengthen India's technological capabilities. This would reduce reliance on imported technologies and components.

**Improve the charging station infrastructure**

Currently, incentives are primarily directed towards public sector companies, which may limit the scope for development. Instead, the government should incentivise companies in the private sector to build this infrastructure because of their more efficient approach to innovation. This can be seen by companies such as Tesla that have revolutionised charging infrastructure through technological advancements.

## VII. Conclusion

This research study was set to figure out the extent to which the FAME-II policy of 2019 contributed to the growth of domestic EV manufacturing in India, and what its unintended economic consequences were. It has evaluated the policy by examining the strengths and weaknesses in shaping India's electric vehicle (EV) industry.

## VIII. Key Results

The findings suggest that FAME II did encourage domestic EV production, but its advantages were unevenly distributed. Larger firms with greater economies of scale were successful in capturing more of the incentives and still bypassed localisation norms. This has perpetuated dependence on imports, reduced opportunities for smaller manufacturers, and limited the development of a self-reliant EV industry. Moreover, delays in subsidy disbursal and other inefficiencies weakened the overall effectiveness of the policy.

Another critical result is that India remains significantly dependent on foreign supply chains for EV components. This occurred despite the government's intention to localise production; therefore, Chinese imports continue to dominate the Indian EV sector. Showcasing the vulnerabilities in the EV sector that persisted regardless of the FAME II policy, emphasising the need for a more effective policy.

**Future Outlook**

Looking forward, India's EV policies should focus on equity and innovation.

- **Equity:** Incentives must reach both large firms and smaller manufacturers to build an inclusive industry. Moreover, the EV industry should be introduced in rural regions as well to reduce the urban–rural divide in adoption.
- **Innovation:** Encouraging research and development regarding EV technology will be essential in reducing import dependence and building international competitiveness. Moreover, targeting funding towards research programs in universities and EV companies can foster an innovative ecosystem

In conclusion, the FAME II policy was an integral step towards boosting EV production in India but didn't meet some of its objectives. The upcoming policies should look beyond adoption and focus towards creating an equitable and innovative industry, which would reduce economic repercussions and aid in securing India's position in the EV market.

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