Economics Standard Level

Commentary 1 – Microeconomics

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Subsidy cuts blamed for fall in UK sales of electrified vehicles

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Industry accuses government of undermining sector after first decline since April 2017

Link-https://www.theguardian.com/business/2019/jul/04/subsidy-cuts-blamed-for-fall-in-uk-sales-of-electrified-vehicles

The British car industry has accused the government of undermining the sector after sales of electrified vehicles fell for the first time in more than two years.

Sales of cars with alternative fuels – including battery electric vehicles and hybrids – were down 11.8% in June compared with the same month last year, the first annual decline since April 2017, according to the Society of Motor Manufacturers and Traders (SMMT).

Electrified vehicles accounted for about one in every 17 cars sold in June. Their share of the market needs to increase rapidly for the UK to meet its target of net zero carbon dioxide emissions by 2050.

Battery electric vehicle sales continued to rise strongly, by 61.7% year on year, but sales of plug-in hybrids, which combine a combustion engine with a battery that can be charged externally, halved compared with last year.

The SMMT blamed the downgrade of government subsidies in October. The £2,500 subsidy for plug-in hybrid vehicles was cut altogether, and the government reduced the grant for pure electric vehicles from £4,500 to £3,500.

Carmakers have relied on the subsidies to stimulate demand for electrified vehicles. Falls in sales of hybrids, which still emit significant amounts of carbon dioxide, would make it more difficult for carmakers to cut their fleet average emissions, opening them up to the risk of hundreds of millions of euros in fines.

Battery electric vehicles emit no carbon dioxide directly, but consumer uptake has been held back by concerns over their range and a lack of readily available charging infrastructure, as well as cost.

Large-volume carmakers must reduce the average emissions of the cars they sell to below 95kg of carbon dioxide per kilometre driven after 2021. Only two brands – the electric vehicle maker Tesla and Daimler's Smart microcars – out of 50 analyzed by the data company Jato Dynamics met the limits in 2018.

Overall, new UK car sales in June were down 4.9% year on year, the fourth consecutive month of falling sales. The industry has blamed the slump in demand on Brexit uncertainty and the decline of diesel vehicles after emissions scandals.

Meanwhile, sales of diesel models fell by one-fifth year on year, further complicating the industry's efforts to meet carbon dioxide emissions targets. Diesel cars emit particles that directly cause health problems as well as poisonous nitrogen oxides, but they tend to have a lower carbon dioxide output than those running on petrol.

Relations between the industry and the government have been strained in recent years, with carmakers complaining of inconsistent policy. At the same time, executives across the sector have warned a no-deal Brexit would be deeply damaging.

Mike Hawes, the SMMT chief executive, said: "Another month of decline is worrying but the fact that sales of alternatively fueled cars are going into reverse is a grave concern. Manufacturers have invested billions to bring these vehicles to market, but their efforts are now being undermined by confusing policies and the premature removal of purchase incentives.

"If we are to see widespread uptake of these vehicles, which are an essential part of a smooth transition to zero-emission transport, we need world-class, long-term incentives and substantial investment in infrastructure."

A Department for Transport spokeswoman said: "The plug-in car grant has supported the purchase of 180,000 new cars with over £700m, including 100,000 plug-in hybrids, and the government is now focusing on the cleanest, zero-emission models. That focus has paid off, with registrations of battery electric vehicles up over 60% this year compared to the same period in 2018."

Commentary:

The chosen article discusses a cut in the subsidies provided by the UK Government to consumers upon the purchase of electric vehicles. As a result, the British car manufacturers face a fall in the demand for electric cars in the market, causing them to blame the government.

A **subsidy** is defined as a sum of money that is granted by the state or a public body to help the business or an industry keep the price of a good low by offsetting any reductions in revenue due to price cuts[1]. The article highlights how government subsidies for plug in hybrids of **£**2500 was cut, and the grant for purely electric vehicles was cut from **£**4500 to **£**3500. Such cuts in subsidies result in a rise in prices for electric vehicles, which can in turn cause quantity demanded to contract.

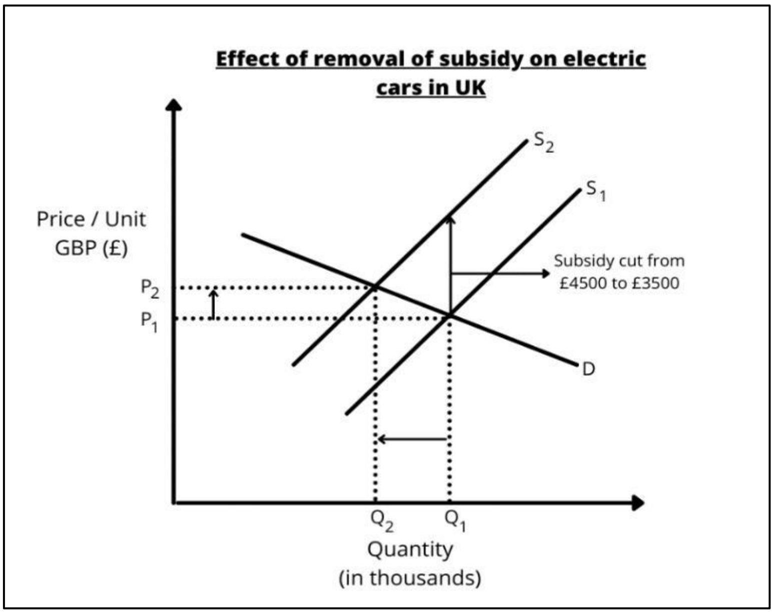

Fig. 1.0

As seen in Fig. 1.0, the removal of subsidies by the British government causes **higher production costs**, raising market prices from P_1 to P_2, as supply shifts inwards from S_1 to S_2. Therefore, **quantity demanded contracts** heavily from Q_1 to Q_2. Since the demand is **highly price elastic** due to the nature of the good, it can be seen that the fall in quantity demanded of electric vehicles (EVs) is much greater in proportion to the price per unit.

[1]Tragakes, E. (2011). *Economics for the IB Diploma with CD-ROM* (2nd ed.). Cambridge University Press.

The use of electric cars is stated to “emit no carbon dioxide directly”. Petrol cars on the other hand release greater volumes of CO2, imposing an **external cost** on the environment. An external cost is the additional cost arising on a third party **not involved** in the economic transaction, due to the production or consumption of a good. Therefore, the market fails to allocate resources efficiently while producing electric and petrol run cars, and this failure is corrected by the increased adoption of electric cars, which do not impose this external cost. This quality allows them to induce a positive externality in consumption. Due to **asymmetric information**, and reluctance of consumers to adopt the new technology, they are undervalued and underproduced. Therefore, the government must **provide subsidies** to **lower costs and boost supply with lower prices**.

However, luxury goods such as cars are often considered to be **highly price elastic**, and markets for vehicles therefore tends to be highly competitive. The cuts in the subsidy will propel a large fall in the quantity demanded for the product, as was seen in the UK market. Therefore, the policy of the government to reduce the subsidies provided to consumers of electric cars is counter-intuitive to solving the market failure. This has declined the use of alternative fuel vehicles, and is threatening overlooking the spending of firms in investments and development that has brought the vehicles to the market.

This reduction in demand is damaging in two different aspects. The first is the market failure occurring due to reducing adoption of electric vehicles, which is giving way to external costs by fuel run cars further **polluting the environment**. The second is a negative impact on producers. In the long run, unless manufacturers are able to increase the use of electric cars to balance out their carbon emissions, they are likely to **face large fines and risk going out of business**.

Fully electric cars are a **recent development** that is not yet widely adopted worldwide. They are quite different in terms of use compared to a traditional fuel driven car, as they require charging stations and operate differently. This change is likely to face **opposition as a higher proportion of consumers will opt for a well-known and trusted vehicle** while making an expensive purchase. This type of competition is highly non-price based, and depends on brand image and consumer base. Electric manufacturers can **build this image through wider adoption of their products**. As subsides are cut, the government has a greater fiscal budget to spend on promotion of electric vehicles through other schemes. The government may **increase spending on investments in infrastructure** surrounding the proprietary charging stations for electric vehicles. This will provide **long term growth** within the transition, as use of electric vehicles becomes more convenient. Additionally, by **advertising** the benefits of use of electric vehicles, the government **can offset the effect of asymmetric information** prevalent within consumers.

Thus, if the UK wishes to see widespread adoption of electric vehicles to combat the negative externalities of fuel vehicles, needless to say, it would r**e**quire structured long-term schemes to persuade consumers to switch to brand new technology, which as always will face resistance.