Halftime Report on Electrified Vehicles

- Global demand for electrified vehicles was robust in the first half of 2018.
- Policy incentives, whether they are purchasing subsidies or registration exemptions among many tools, have contributed to the growth trend.
- As product availability grows and battery costs decline, the “demand pull” without incentives could intensify.
- Whether this induces a better, less fossil fuel driven transportation sector, will depend on many factors, including travel behavior and the fuel mix used to produce electric power (see page 2).

There is no question that electrified vehicle (EVs include plug-in electric and battery electric) sales are growing worldwide, with robust results in the Nordic countries and China, as well as the U.S. As of June 2018, global EV sales were an estimated 750,000 (not seasonally adjusted). The top chart shows the first half sales for 2017 and for 2018 for three breakouts: U.S., China, and all other global sales. Caution: These data are estimates derived from publicly available data sources and have not been validated.

Based on these estimates, global EV sales rose 66% in the first half of 2018 as compared to the same period a year ago. U.S. EV sales growth was 40% while China growth is estimated at 45%. What is interesting, however, is that all other markets excluding the U.S. and China are beginning to initiate EV sales — with first half 2018 at nearly 400,000 units. Based on current running rates, 2018 is estimated to clock nearly 1.9 million in EV sales globally, up from just over 1 million units last year (see 2nd chart). Assuming minimal scrappage of EVs, then the total number of EVs on the roads would increase to nearly 5 million units.

Still, this represents a very small share of the vehicles in operation worldwide. As the third chart shows, that is slated to rise to 1.4 billion vehicles (cars, utilities and trucks) this year. EVs in operation would represent just 0.3% of the overall vehicle stock.

An important macroeconomic development is on the horizon which could impact vehicle sales and oil demand in many of the emerging markets. Recently, the trade war and verbal jawboning on tariffs has ignited a severe devaluation in many emerging markets’ currencies, most notably Turkey, Argentina, Brazil, and India. While China continues to manage its currency, the Yuan, it has also fallen by 6.6% since mid-June 2018. As a result, inflation is likely to accelerate in these countries, making products like oil and imported cars more expensive. This may have an effect on EV sales as well and warrants close monitoring.

Since oil is a U.S. dollar commodity, i.e., purchases and sales are denominated in dollars, it is getting much more expensive for many emerging markets as their exchange rates devalue significantly. Other imported products, like cars, will also increase in price.
Are electrified vehicles cleaner than conventional, internal combustion engine vehicles? Well, it depends on what the electric power source is, driving behavior, where the vehicle is operating in the U.S., and what type of conventional vehicle is used in the comparison. The recent blog by the Union of Concerned Scientists (UCS) found reported that the February 2018 data on power plant emissions now suggests:

- 75% of people in the U.S. could have EVs which are cleaner to drive than a conventional internal combustion engine vehicle which gets 50 miles to the gallon. The UCS map below illustrates how this varies across regions in the U.S. depending on fuel sources for electric power.
- Their analysis suggests that, based on where EVs are sold, those EVs are cleaner to drive than a conventional vehicle getting 80 miles to the gallon.