

What Does the EV Craze Mean for Emerging Markets?

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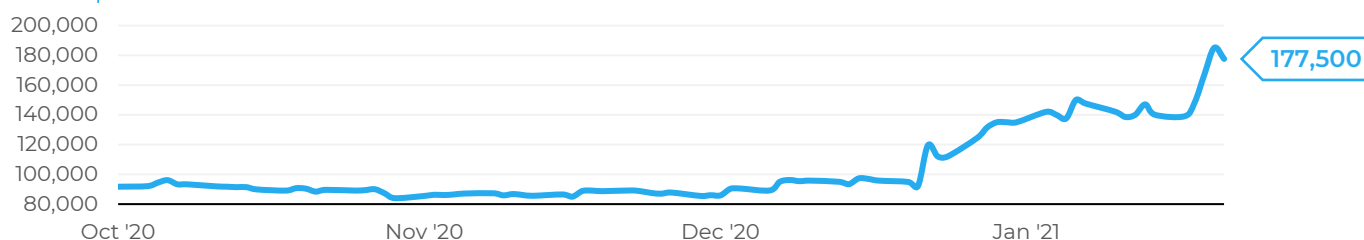
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In a market filled with liquidity and searching eagerly for the next growth story, electric vehicle (EV) companies, and their supply chain are seeing a lot of flows. Most famously, Tesla shot up 7x in 2020 after finally turning a profit for the first time in its history. EV affiliated ETFs like KARS or DRIV have seen more pedestrian returns of 100-200% in the same time period.

EV stocks in Asia have seen huge inflows too, at times equally ignorant of apparent fundamentals. In Korea, perennial value stock LG Electronics' stock price doubled over the course of a single month after they recently announced a new JV in the EV business that would account for about 2% of their revenue (see [Chart 1](#)).

Chart 1 | LG Electronics, Inc.
Daily Price



Source: Factset

While fast momentum and lofty valuations feed fears of a bubble among many investors, this is clearly a growth sector. EV sales are accelerating fast, especially in China and Europe, with new technology and price decreases meaning that the total cost of ownership (the lifecycle cost of a car normalizing for reduced maintenance and fuel costs in EVs) of EV cars has hit parity with their combustion engine forebears.

Tempering the enthusiasm is the reality that infrastructure for EVs still lags far behind the optimism. Recharging stations remain the province of the wealthy or the provenance of a select few urban (also usually affluent) locales. So the notion of EV adoption across lower income countries still seems fanciful.

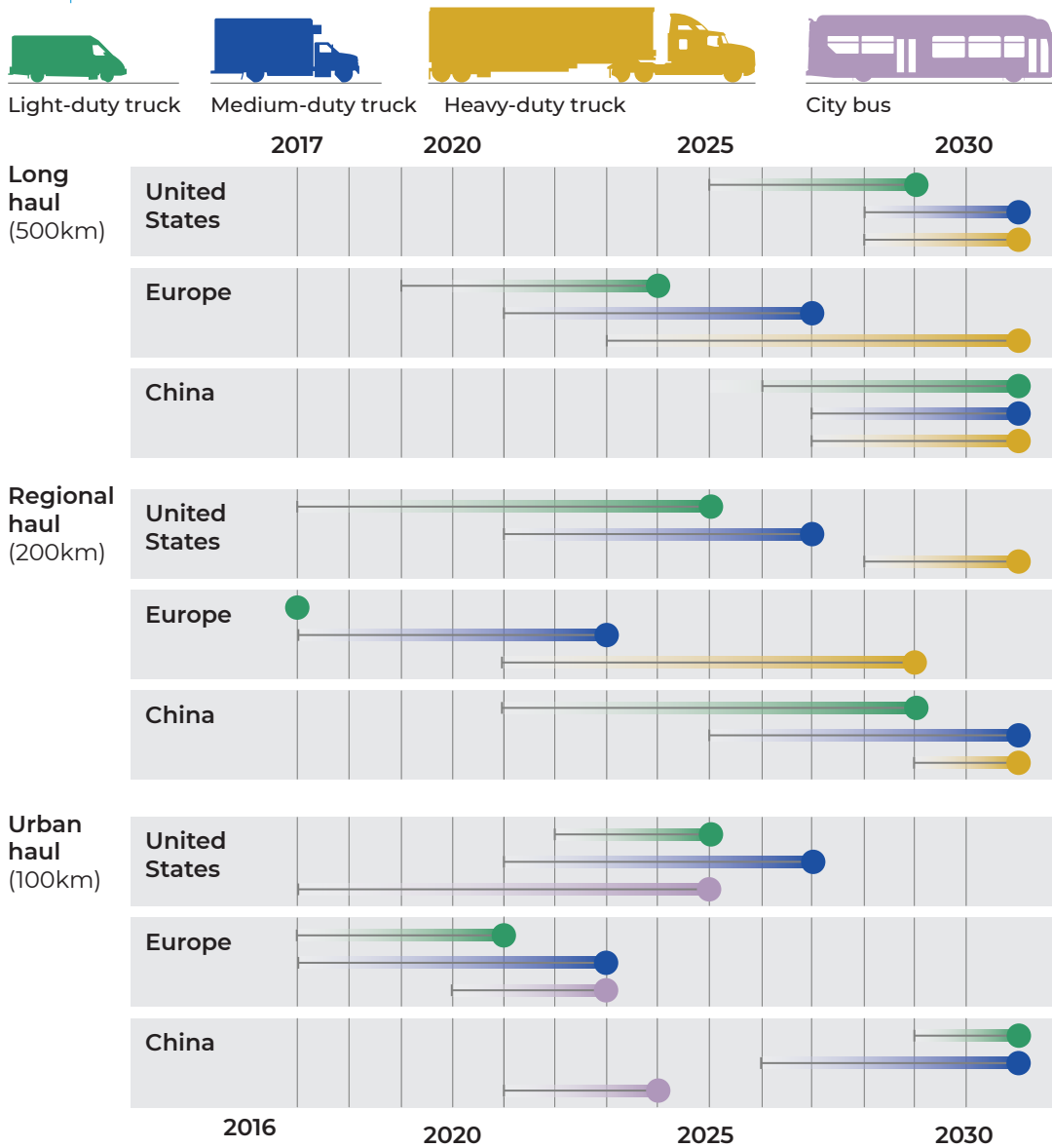
The exception to this may be in EV trucking. Given the predictability and repeatability of trucking routes, investments in fleet-specific recharging facilities dramatically hasten the return on investment on such new capital expenditures. Indeed, this is already happening. EV fleets for Ambev in Brazil and SAB Miller in South Africa have recently joined scores of EV trucking fleets in China, to mention a few. In November 2020 a VC-backed startup in India [announced](#) its plans to launch a 1,000 truck EV fleet that will compete in India's highly fragmented logistics sector.

According to a 2017 [McKinsey study](#), in Europe the total cost of ownership for EV trucks had already begun to hit parity with diesel trucks (see graphic below) for light and medium-duty vehicles running urban and regional freight (<200km). Projections are that China and the U.S. are not far behind. Importantly, the McKinsey study's total cost of ownership modeling also reflects the required costs of

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charging infrastructure and not just vehicle costs. While the McKinsey study focuses just on the three largest global markets in the U.S., China, and Europe, the U.S. comparison is perhaps most indicative for non-European emerging markets, given a comparable paucity of government subsidies and tax incentives (see [Chart 2](#)).

Chart 2 | Timing of battery electric vehicle total cost of ownership parity with diesel vehicle, year achieved range



Source: McKinsey Center for Future Mobility

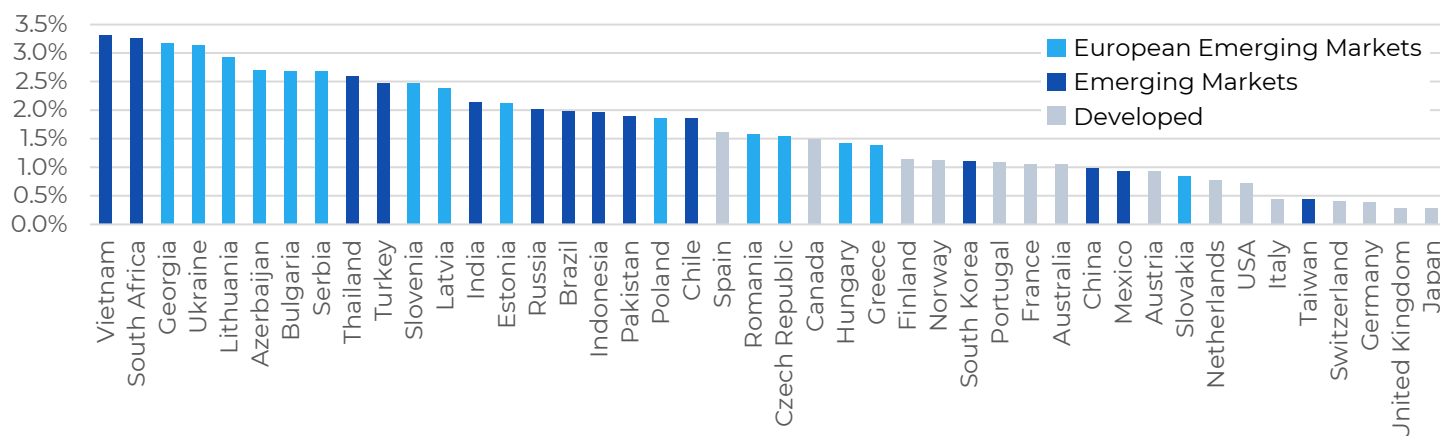
Clearly there will be winners among EV vehicle makers and their suppliers; expectations that may now be at least partially priced in given recent market enthusiasm. But what are the second order effects? Beyond the initial capex expenditures of EV truck adoption, what broader economic impacts might this new technology bring?

Truly accurate estimates here are difficult to come by given the myriad of variables ranging from credit availability, interest rates, EV truck adoption rates, road network efficiency, population density, levels of fragmentation in a nation's freight/logistics industry as well, (of course) as the variable cost of petrol across nations, which is itself a function of taxes, refining networks, competition, etc. But one simple proxy for the possible recurring economic gains is simply to estimate

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the percentage of GDP each country spends on diesel, which is primarily (though not exclusively) used by vehicles EV trucks seek to displace (and which was the point of comparison for the McKinsey study referenced in [Chart 2](#)), net of the added electricity expenditures at prevailing commercial rates. The results are below in [Chart 3](#):

Chart 3 Est. % of 2019 GDP saved on fuel consumption net of incremental electricity usage in 100% EV truck transition



Source: Xponance analysis based on World Bank, GlobalPetrolPrices.com, and U.S. Energy Information Administration data. Calculated as the difference between country level diesel fuel consumption (2019 data) at March 2021 country-level diesel prices less the kwh equivalent cost of electricity at June 2020 commercial rates as a % of 2019 GDP.

This model indicates that EV truck adoption will disproportionately benefit emerging markets 2-3x more than developed economies. For most of these markets EV truck adoption will mean improved balance of payments as they import less petrol, while also reducing the marginal cost of goods and thus adding to disinflationary pressures across the economy. Lower rates of inflation should also (all things being equal) allow interest rates to stay lower for longer, further enabling more investment at increasingly economical rates, further augmenting growth.

In assessing the economic benefits across markets, investors should also consider what countries might benefit sooner than others. Beyond some of the anecdotal evidence referenced above, data remains sparse. Early indications are that China has seen some of the largest levels of EV fleet adoption followed by developed European markets in Germany and Holland, spurred by government incentives. For EM investors this makes emerging European economies especially interesting on this front, as the spillover effects from European incentives and EU regulations spread to the lower income countries in the block for whom the economic benefits of EV truck adoption are greatest. East-central Europe in particular, with its higher population densities in the urban belt running from Warsaw to Belgrade (across Poland, Czech, Slovakia, Hungary, and Serbia), the returns on investment from EV fleet adoption portend more proximate economic gains. But at the top of the list, though is equally densely populated Vietnam, which among all investible markets globally stands to save the most in a theoretical conversion of their trucking fleet from diesel to electric.

Given the scale of potential economic benefits to some of these markets, investors across asset classes should take extra care to monitor the pace of adoption of EV trucks and begin to include the potentially significant follow-on effects in their economic forecasts.

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