Sylvain Chassang

Keep, Cut, Commit: An Alternative Path to Decarbonizing Car Use

On Tuesday, August 12, Sylvain Chassang joined Markus' Academy for a conversation on "Keep, Cut, Commit: An Alternative Path to Decarbonizing Car Use." Chassang is a Professor of Economics at Princeton University and a former Member of the French Conseil d'Analyse Economique, which carries out independent public analyses at the behest of the Prime Minister and the Ministry of Economy and Finance.

A few highlights from the discussion.[1]

- **[2:41] The Keep, Cut, Commit Proposal**
  - Individual transport accounts for around 15% of France's total emissions. While the country has reduced its overall emissions by 1% per year since 1990, emissions from this sector have remained stable
  - France needs to reduce these emissions by around 10 to 15% within the next 5 years, but at a limited cost to consumers, manufacturers and public finances
  - Chassang (2025) proposes a strategy to do so. It relies on other research under the MyCarPlan initiative by the French Conseil d'Analyse Economique and on surveys carried out with UFC-Que Choisir (France's leading consumer rights group) and BPI France (the French public investment bank)
  - Because replacing the entire fleet can take decades, the strategy focuses on what can be implemented with the existing fleet
  - The proposal leverages two economic forces: (1) the used car market, where consumers never want to throw away the residual value of their Internal Combustion Engine (ICE) car, and (2) car usage varies widely among drivers
  - **Keep:** If you are in the bottom 30% of drivers by annual mileage, you should keep your ICE car: you are the best possible owner for an ICE car
  - **Cut:** Reduce emissions from the existing fleet at low cost by adopting usage-based insurance, practicing fuel-efficient driving habits, or cutting about one trip out of ten
  - **Commit:** Make a commitment that the next car will be electric through a dedicated savings plan

- **[9:11] French Car Market**
  - France has 40 million cars, growing by 0.8% a year, with a mean age of 11 years, which is also growing
  - New car inflows are 2 million a year (5% of the fleet). This means it takes 20 years to fully renew the fleet. Of the new cars, a little under 20% are electric, so that by 2050 it is expected to have 15-20 million ICE cars on the street

[1] Summary produced by Pablo Balsinde (PhD student, Stockholm School of Economics)

    - The used car market is large, with 6 million transactions per year; as a result it can absorb changes in supply and demand
    - The degree of car usage is heterogeneous. 25% of people drive their cars less than 6,000 kilometers a year, 25% drive more than 15,000 km a year (this is also true when controlling for factors like a car's size and age)
    - Given that renewing the entire fleet could take decades, policy should aim to shift the ownership of polluting cars to low-mileage drivers
    - There could be exceptions for drivers at the extreme end of the usage distribution. The highest-mileage drivers (around 200 km/day) are mostly highway users, for whom diesel may still be optimal: EVs lose efficiency on long trips and require time-consuming recharging
    - Manufacturers are selling fewer cars than usual. Demand has suffered an uncertainty shock, due to concerns over rapid tech change (better EVs soon) and whether climate policy will continue
    - As a result, 30% of SMEs are delaying fleet renewal, while 50% of households believe both ICE and EVs will lose value in the used market faster than usual
    - Both ICEs and EVs are seeing declines in demand; recent EV subsidy reductions did not cause a substitution towards ICE cars. Interestingly, hybrids have been less affected: one can see them as an insurance portfolio hedging against both technological and policy uncertainty
    - Lengthening the transition will lead people to delay more, as longer delays bring larger commitment problems
    - Weak demand discourages investment by manufacturers and infrastructure operators. Low investment further weakens demand. A clear, credible signal of strong future demand is needed
    - China has been good at eliminating the political uncertainty. Their successful push for electric car adoption was driven by other reasons like local pollution and industrial policy, while the strength of the government enabled coordination between manufacturers and infrastructure providers

- **[25:04] CO2 and subsidy leakage in the used car market**
    - No one scraps their car outright. Even those switching to an EV usually sell their old ICE car, which then keeps emitting in the hands of its new owner
    - One can point out that the buyer of that used car will scrap their even older and more polluting car. However this indirect effect is modest: 60% of the total emissions will still happen
    - This leads to a counterintuitive result that low-mileage drivers can cause more emissions if they sell their car than if they keep it. They are the best possible owners of ICE cars
    - It also implies that the timing of renewal does not matter from the perspective of global temperatures. The key metric is whether ICE car sales are going down, not whether EV sales are going up
    - There is also subsidy leakage. Subsidies targeting the first owners of EVs eventually lead to a decline in the price of used EVs; estimates suggest that the first owner will only capture 20% of the subsidy, and that front loaded subsidies cause 10 percentage points of the depreciation of used recent EVs.

    - Despite this, in surveys, 70% of people dislike EV subsidies because they think they only go to the rich. They attribute the low price of used EVs to poor quality, rather than to the effects of subsidies
    - The solution is to subsidize leasing, so that the vehicle is subsidized rather than the buyer. Today 80% of EVs in France get sold via leasing
    - Government programs which pay people a fixed amount to trade-in older ICE vehicles when purchasing an EV (like the U.S.' Car Allowance Rebate System or France's Prime à la conversion) can often be gamed easily
    - They fail to accelerate scrappage and become extremely expensive. It effectively sets a price floor on the value of cars on the street, encouraging people to drive them until they reach the limit and then sell them to the government for the residual value

- **[37:56] Details on "Keep" and "Cut"**
    - We saw how the used car market is a matching platform between those who do not drive much (sellers) and those who do (buyers)
    - Keeping low-mileage drivers from selling their cars, such as through information campaigns, or by ensuring that vehicle replacement policies are not mistargeted, will increase the prices of used cars
    - As a result, intensive drivers, given their budget constraints, will buy a new smaller car rather than an older bigger car
    - A 10% cut of fuel use across the entire fleet could have a similar impact on emissions as the accelerated electrification of new car sales. It could be achieved by:
        i. Switching to usage-based car insurance,
        ii. Encouraging efficient driving practices (like correctly inflated tires), or
        iii. Incentivizing households to cut 1 trip out of 10, even symbolically (e.g., through parking discounts or "eco badges")

- **[43:50] Details on "Commit"**
    - A strong signal that people will purchase EVs is key to reassure manufacturers and financial markets
    - The proposal is for a Green Savings Plan, where individuals save €50-200 a month earning EURIBOR + 3% in exchange for committing to purchase an EV (new or used) within 3 to 5 years. If no purchase is made, the benefits are forfeited
    - The program would cost 1/10th of the current cost of subsidies. The problem is that subsidies are trying to move the margin of a very difficult decision, trying to get people to buy a car now when they do not want to do so
    - All that is needed is a signal of what people already know they want to do: buy an EV in a few years
    - The interest subsidy costs could even fit within car-manufacturers' marketing budget since the proposal would effectively establish a new sales channel.
    - A side benefit is that at scale the program could create a meaningful source of capital earmarked towards electrification: 1 million people participating would lead to €12 billion in savings, which could be used to run an electric infrastructure fund.

- The program would best be run through manufacturers or industry associations: committing to buying some EV within 5 years is much easier than committing to buy an EV from a specific brand.

Timestamps:
[2:41] The Keep, Cut, Commit Proposal
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