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Tesla: The naughty secrets of second-hand FSD

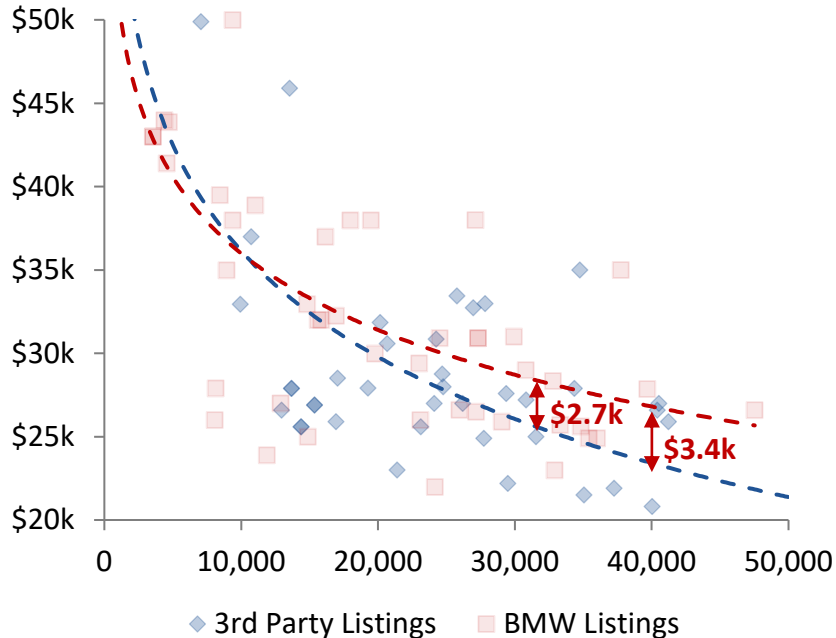
24 February 2021

- Tesla offers FSD (Full Self Driving) with all second-hand vehicles.
- Our extensive analysis shows Tesla in the second-hand market commands a \$6,300 average premium vs. cars sold without FSD on third party platforms, vs. \$3,000 for other premium brands like BMW. This means Tesla sells “FSD second hand” for \$3,300 – a 66% discount! Harsh for software...
- In addition, we have gathered a unique and exclusive dataset showing that Tesla doesn’t pay for FSD in its trade-in offers; which is not what drivers buying FSD upfront would have expected. They were promised an investment.
- Although this results in greatly profitable second-hand sales, it is unsound practice we encourage the company to change:
 - It hurts most supportive clients, who paid for FSD and lose their investment when they want to upgrade to a new car. (Full disclosure: we are part of this group!)
 - It discourages clients to upgrade and it damages the perceived value of FSD.
- We encourage Tesla to offer FSD as an option on second-hand cars, and buy back at a reasonable price FSD in trade-ins offers, or offer to port it for a limited fee.
- This would hurt Tesla’s second hand profits, but obviously benefit shareholders: Tesla’s long term value rests on the trust it builds in its community more than second-hand profits!

Tesla second-hand pricing values FSD at \$3,300, or a 66% discount!

BMW second hand: ~\$3k premium to the open market

BMW 3-Series Price (US\$k) vs. Miles Driven (miles)

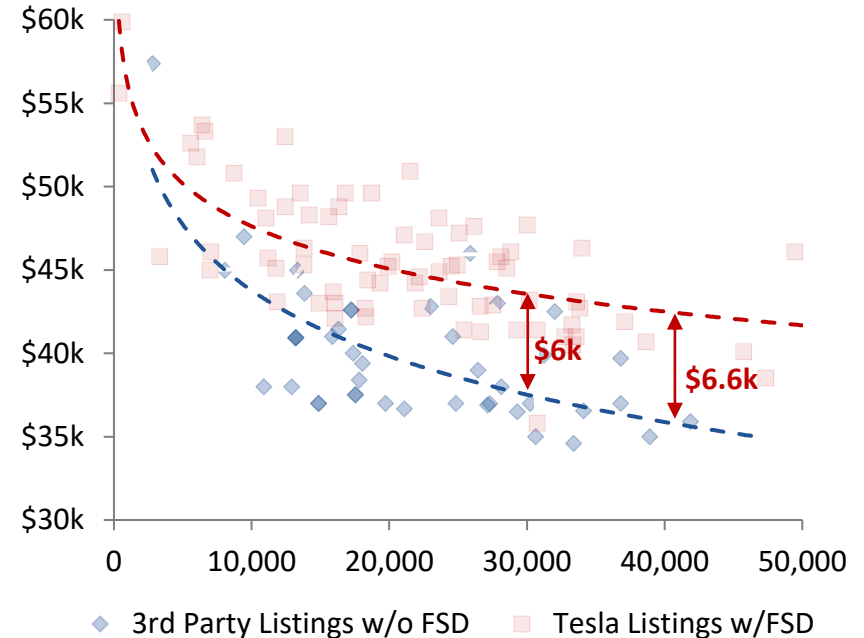


On average BMW sells units in its network second-hand cars at a \$3k premium compared to the open market.

This is the typical value of the premium brand in the second hand market.

Tesla second hand: \$6.3k premium, including FSD

Tesla Model 3 LR Price (US\$k) vs. Miles Driven (miles)



On a similar basis Tesla enjoys a \$6.3k premium, but there is a catch: **Tesla offers FSD on all second hand cars!!**

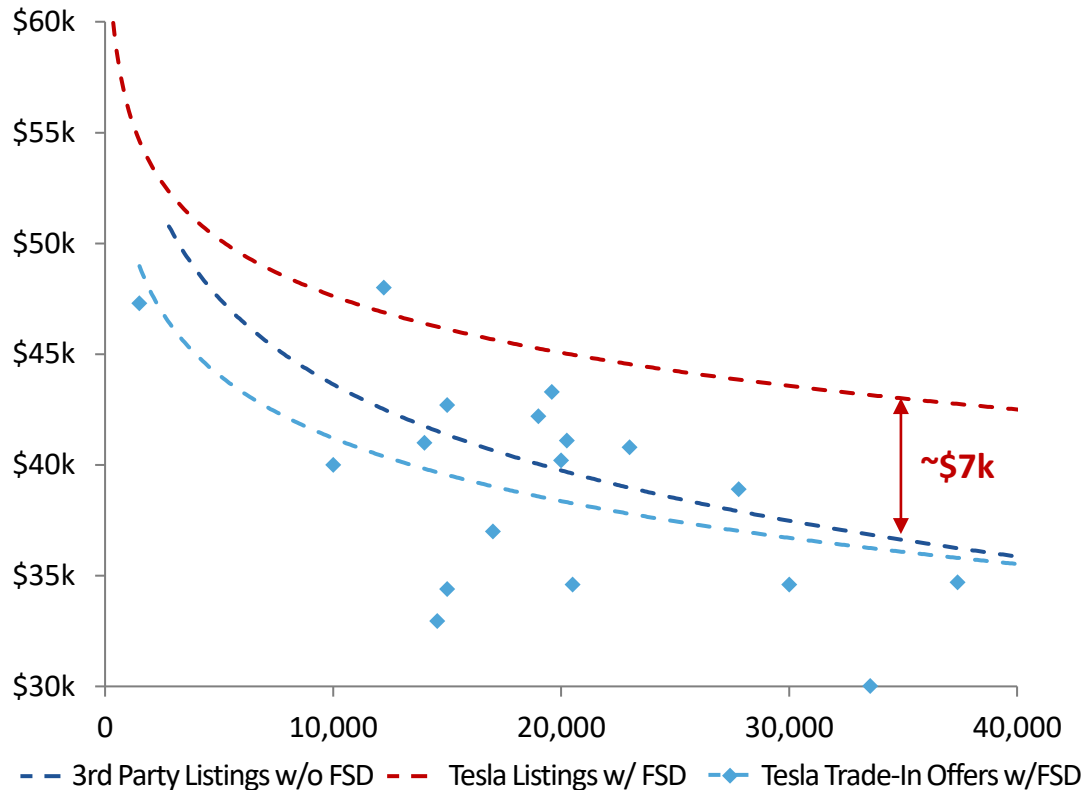
This means Tesla implicitly prices FSD at \$3.3k in the second hand market.

Source: Tesla, Edmunds, Twitter, Online Forums, Cars.com, Carvana and NSR analysis.

Tesla doesn't pay for FSD in its trade-in offers

Tesla trade-in offers for Model 3s with FSD are ~\$7k below the second hand list price

Tesla Model 3 Long Range Price (US\$k) vs. Miles Driven (miles)



Tesla trade-in offers for models with FSD are on average \$7k below their second hand prices

This means Tesla prints ~15% margins on second hand cars

These trade in offers are below asking price of non-FSD cars in the open second-hand market.

This means Tesla doesn't value FSD in their trade-in offers... and keeps the value of FSD for them!

Source: Corporate reports and NSR estimates and analysis.

Implications for Tesla; what should the company do?

Immediate benefits are obvious, and it is understandable that the second-hand operation went for this strategy, but in the long run, this set up hurts FSD's perceived value and the trust the Tesla community puts in the company and the brand.

- **Immediate direct benefits:** The marginal cost of offering FSD on all second-hand cars is very limited (hardware upgrade, likely sub-\$1,000 cost), and our analysis suggests it boosts selling price by at least an average of \$3,300 – this is 8% of the second hand ASP of the long-range Model 3. We estimate Tesla's second-hand gross margins at 15%! Additional benefit is obviously a boost in the number of actual FSD users on the road, very useful as the product is still in development phase.
- **Value destruction overall:** By selling FSD second hand at a 66% discount, Tesla can only hurt the perceived value of FSD.
 - **It will have an immediate impact.** As the situation gets known, First-time buyers will not invest \$10,000 into FSD anymore, and candidate upgraders will abandon their project, unwilling to leave so much money on the table.
 - **It will have a longer-term impact as well,** lowering Tesla's pricing power on the feature, be it sold as a perpetual license or as a subscription. Perception is everything in car option pricing!
 - **Hurting viral marketing:** Initially, the pricing philosophy for early FSD was to sell it as an investment for drivers, who would be in the future able to use it without paying a higher price or a subscription. That philosophy was clearly laid out by Elon Musk, and has simply been betrayed. For a brand relying 100% on viral marketing, it is not a good thing.

What should Tesla do? Three simple things, that will hurt the profitability of second hand sales, but will revive sales of FSD, revive upgrades amongst the strongest supporters, and create a strong viral positive campaign on FSD, just before subscription deployment.

- **Sell FSD on second-hand cars as an option only, fully priced or priced at a limited discount.** This will hurt second-hand profitability but will restore the perceived value of FSD in the second hand market.
- **Value explicitly FSD in trade-in offers, or allow porting the license to a new car, for a reasonable fee.** This could hurt further second-hand margins, but will boost upgrades withing the FSD owner community.
- **Move FSD to a subscription** as soon as version 1 of the service can be deployed.

Source: Corporate reports and NSR estimates and analysis.

Relevant Further Research (for institutional investors only)

- Bible 4Q20: Autos – Industry in full swing towards electric... and stuck into supply constraints – (17 February 2021) – [Link](#)
- We now know what Tesla gross margins did in 4Q20! – (8 February 2021) – [Link](#)
- Tesla: 1m car production capacity; Energy Storage taking off. All in place for a strong 2021 – (28 January 2021) – [Link](#)
- Tesla: Downgrade to Neutral: Thesis and \$578 target unchanged; near-term upside priced in – (12 December 2020) – [Link](#)
- General Motors: Doing the right things... but doesn't mean it will be successful. – (25 November 2020) – [Link](#)
- Tesla: All set for a monster 2021 – (22 October 2020) – [Link](#)
- Tesla: A decade of hyper-growth ahead; Upgrading to buy, \$578 target price – (7 October 2020) – [Link](#)
- Tesla Battery Day – A short list of what really mattered – (23 September 2020) - [Link](#)
- Tesla: Downgrade to Neutral, Target Price \$1,500. Long term upside material, near-term catalysts limited – (23 July 2020) - [Link](#)
- Continuous innovation at Tesla – (15 April 2020) - [Link](#)
- Our top 5 Ideas in the sell-off – Tesla – (27 March 2020) - [Link](#)
- Tesla: A thorough review of how 2020 plays out – Downgrade to Neutral, \$800 Target unchanged – (2 February 2020) - [Link](#)
- Tesla: What is the addressable market? – (1 November 2019) - [Link](#)
- Tesla: 10 fun & disturbing facts, and what is coming next. More and more evidence our call is playing out... – (14 August 2019) – [Link](#)
- Tesla – Is electric commodity? Real research about a real question – (13 June 2019) – [Link](#)
- ADAScadabra! a framework to understand how ADAS, ride-sharing, and Autonomous driving play out - (19 December 2018) – [Link](#)
- Holy of the Holies... Visiting the Gigafactory - (18 June 2018) – [Link](#)
- Is Tesla a loaded gun? Moment of truth - (10 May 2018) – [Link](#)

Disclosures

12 month historical recommendation changes are available on request

This report was produced by New Street Research LLP. 52 Cornhill London, EC3V 3PDTel: +44 20 7375 9111

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