1

2

3

4                           UNITED STATES DISTRICT COURT

5                         NORTHERN DISTRICT OF CALIFORNIA

6

7    IN RE TESLA, INC. SECURITIES              Case No. 18-cv-04865-EMC
     LITIGATION
8

9                                              **SUPPLEMENTAL *DAUBERT* ORDER
                                               AND ORDER DENYING PLAINTIFF'S
10                                             EMERGENCY MOTION IN LIMINE
                                               RE OPTION DAMAGES**
11                                             Docket Nos. 508, 611

12

13

14          In this securities class action, Plaintiff Glen Littleton retained Professor Steven Heston to

15   set out a methodology to calculate options damages.  Plaintiff's stock options methodology has

16   been the source of repeated *Daubert* motions and motions in limine.  *See* Docket Nos. 479, 553.

17   Most recently, Plaintiff filed an emergency motion in limine contending that judicial estoppel

18   barred Defendants from presenting argument or evidence regarding Plaintiff's original damages

19   methodology.  *See* Docket No. 611 (Plaintiff's Emergency Motion in Limine Re: Option

20   Damages, or "Mot.").

21          Below the Court issues two rulings connected to Plaintiff's options damages methodology.

22   First, for the reasons set forth below, the Court denies Plaintiff's motion in limine.  Second, the

23   Court finds that the issues originally raised by Defendants with respect to Professor Heston's

24   initial methodology have been clarified by the subsequent briefing submitted by the parties.  The

25   Court hereby rules that Professor Heston's original methodology for calculating stock option

26   damages as set forth in his November 8, 2021 report survives *Daubert*.

27   A.     Defendants May Offer Evidence and Argument Regarding the Different Methodologies

28          Plaintiff invokes the principle of judicial estoppel to argue that Defendants should be

United States District Court
Northern District of California

United States District Court
Northern District of California

1    precluded from offering argument, testimony, or evidence at trial contradicting their previously

2    stated positions concerning the use of actual option prices for purposes of determining option

3    damages.  *See* Mot. at 1.  For two reasons, the Court rejects Plaintiff's motion.

4              First, courts have held that impeachment of an expert with prior analysis is generally

5    proper.  As noted by Judge Lucy Koh, "the past methodologies of [] experts are highly probative

6    impeachment evidence that a fact-finder will consider in assessing the weight a fact-finder may

7    choose to give to the experts in the instant litigation."  *Apple, Inc. v. Samsung Elecs. Co.*, No. 12-

8    cv-00630-LHK, 2014 WL 794328, at *12 (N.D. Cal. Feb. 25, 2014).  Judge Koh further noted that

9    the Court could not find any authority to exclude this testimony on relevance grounds and that it

10   was not precluded under Rule 403.  *Id.*  Likewise, the Third Circuit has likewise suggested that

11   evidence of an expert's changing methodology is appropriate for cross.  *See In re TMI Litig.*, 193

12   F.3d 613, 687 (3d Cir. 1999), *amended*, 199 F.3d 158 (3d Cir. 2000) ("If Shevchenko's

13   methodology did change to meet *Daubert* challenges, those changes strike at the heart of

14   Shevchenko's credibility as a witness and the weight to be afforded his testimony.").  Plaintiff has

15   not provided any cases demonstrating that impeachment by prior analysis is improper.  The Court

16   thus concludes that Professor Heston's different methodologies are a proper topic for

17   impeachment.

18             Second, the doctrine of judicial estoppel does not apply because the Court did not make

19   any decision regarding Defendants' initial *Daubert* challenge to Professor Heston's methodology.

20   "Judicial estoppel is an equitable doctrine that precludes a party from gaining an advantage by

21   asserting one position, and then later seeking an advantage by taking a clearly inconsistent

22   position."  *Hamilton v. State Farm Fire & Cas. Co.*, 270 F.3d 778, 782 (9th Cir. 2001) (citation

23   omitted).  In considering whether judicial estoppel applies, "courts regularly inquire whether the

24   party has succeeded in persuading a court to accept that party's earlier position, so that judicial

25   acceptance of an inconsistent position in a later proceeding would create 'the perception that either

26   the first or the second court was misled.'"  *Id.* (quoting *Edwards v. Aetna Life Ins. Co.*, 690 F.2d

27   595, 599 (6th Cir. 1982)).  Because—as described below—Plaintiff voluntarily agreed to use

28   actual prices rather than theoretical prices during the pretrial conference hearing, the Court denied

1    Defendants' motion in limine as moot. *See* Docket No. 508 at 36–37. As a result, there is no

2    ruling on the merits of the issue that can form the basis of a claim that the Court was misled by

3    Defendants.

4    B.        Professor Heston's Use of Theoretical Prices Survives *Daubert*

5              The issues raised by the parties in the supplemental briefing and supplemental expert

6    reports have prompted the Court to review the *Daubert* issue previously presented. As set forth

7    below, the Court finds that Professor Heston's original methodology survives *Daubert*.

8              Last September, Defendants moved to exclude certain opinions by Professor Heston based

9    on Professor Heston's use of "theoretical" rather than actual option price data. *See* Docket No.

10   479 (Defendants' Motion to Exclude). Defendants argued that Professor Heston's methodology—

11   which used the Black-Scholes-Merton ("BSM") formula to compare one set of model-generated

12   price predictions to another set of model-generated price predictions—was "unprecedented" and

13   "junk financial engineering." *Id.* at 2 & 2 n.1.[1] Defendants insisted that Professor Heston's

14   methodology was unreliable because Professor Heston did not "compare the actual transaction

15   prices of Tesla options during the class period to 'but for' option prices," which Defendants

16   asserted was "standard practice." *Id.* at 2.

17             Plaintiff responded that Professor Heston had designed his methodology so as to account

18   for the large bid-ask spreads that existed for Tesla options during the Class Period and other

19   market microstructure features on damages. *See* Docket No. 479-1 (Plaintiff's Opposition to

20   Defendants' Motion to Exclude) at 4. In particular, Professor Heston explained that following

21   12:48pm on August 7, 2018, the bid-ask spread of traded Tesla options grew, which meant that

22   some investors, either by happenstance or acumen, achieved better prices. Heston Report ¶ 164.

23   Professor Heston applied an impact quantum to account for these slight variations in pricing. *Id.*

24   In other words, rather than calculating price impact as the difference between a unique but-for

25

26   [1] The Court described Professor Heston's methodology in detail in its Final Pretrial Conference
     Order. *See* Docket No. 508 (Final Pretrial Conference Order) at 39–46. The Court found that
27   Professor Heston's use of the BSM Model for but-for options prices was sound. *Id.* at 44. The
     Court noted that Professor Heston's use of theoretical data to calculate the "re-valued" (actual)
28   curve raised serious questions, but did not ultimately rule on whether this method survived
     *Daubert* because Plaintiff agreed to rerun his analyses. *Id.* at 46–47.

United States District Court
Northern District of California

1   price and an actual transaction price, which would vary based on where the actual transaction fell

2   within the bid-ask spread, he used an impact quantum to measure the magnitude of the shift

3   without being affected by the bid-ask spread. *Id.* ¶¶ 180–82.

4          During the pretrial conference in October, although Plaintiff's counsel maintained

5   Professor Heston's methodology was sound, in response to the Court's questions regarding

6   Professor Heston's use of theoretical data, Plaintiff's counsel agreed to use actual, not adjusted

7   data, to calculate the "actual" (not but-for) curve.  In the Court's Final Pretrial Conference Order,

8   the Court noted that:

9          Defendants have raised serious questions about Professor Heston's
       use of theoretical data to calculate the "re-valued" curve.  As noted
10      above, the "but-for" curve requires predictive modeling to derive
       counterfactual prices.  But it is not clear why calculated theoretical
11      re-valued prices are needed to determine damages when actual
       option prices and implied volatility exist, are available, and can be
12      used to generate the actual curve.  During the hearing, in response to
       the Court's questioning, Plaintiff could not point to any precedent in
13      caselaw or practice where adjusted data based on ATM-forward
       straddles was used instead of actual known market data for each
14      specific stock option.  Plaintiff also conceded that he could use
       actual option prices to compare with the hypothetical but-for price to
15      calculate damages.  Finally, the instances where the purported
       damages for certain investors exceeded their investments indicate a
16      potential problem with the integrity of the model for which Plaintiff
       had no good answer.  During the hearing, in response to the
17      concerns expressed by the Court, Plaintiff agreed to use actual, not
       adjusted, data to calculate the "actual" (not but-for) curve.  As a
18      result, the Court need not decide whether Professor Heston's use of
       theoretical data to calculate the "re-valued fitted option value" fails
19      *Daubert*; that issue is now moot.

20   Docket No. 508 at 46–47.  Thus, in light of Plaintiff's decision, the Court did not ultimately reach

21   the question of whether Professor Heston's use of artificial data to calculate the "re-valued fitted

22   option value" survived *Daubert*.

23          Following the Final Pretrial Conference Order, Plaintiff provided supplemental expert

24   reports and revised calculations to Defendants.  Defendants then sought leave to file another

25   *Daubert* motion under the theory that Professor Heston's new methodology, which implemented

26   actual market data for the "actual" prices, was unreliable.  *See* Docket No. 536 (Defendants'

27   Letter).  Defendants argued that Professor Heston's methodology failed to account for the fact that

28   some investors traded at different prices for reasons unrelated to Mr. Musk's tweets—*i.e.*, the

1   precise problem that Professor Heston had addressed in his initial report.  *Compare* Defendants'

2   Letter at 2 *with* Heston Report ¶¶ 180–82.  Professor Seru, Defendants' rebuttal damages expert,

3   subsequently opined that Professor Heston's updated methodology was "fundamentally flawed"

4   because it was sensitive to execution price within the bid-ask spread, and because it was

5   problematic to assume a constant rate of implied volatility for the but-for prices given his use of

6   actual prices.[2]  *See* Seru Supplemental Expert Report ¶¶ 13–21.  Professor Seru noted that

7   Professor Heston's original methodology could arguably be considered an apples-to-apples

8   comparison because the assumption of implied volatility would apply to both the "actual" option

9   value and the "but-for" option value.  *Id.* ¶¶ 15, 21.  Professor Seru argued that assuming implied

10   volatility for only the "but-for" option value resulted in an "apples-to-oranges" comparison.  *Id.* ¶

11   21.

12        The issues raised by Defendants and Professor Seru in response to Professor Heston's

13   revised methodology have clarified for the Court why calculated theoretical re-valued prices may

14   be used to determine damages, even when actual option prices and implied volatility exist, are

15   available and can be used to generate the actual curve.  Among other reasons, it sets up an apples-

16   to-apples comparison.  Professor Heston crafted his first methodology to address the precise issues

17   which Defendants now maintain render his second methodology unreliable.  *See* Docket No. 536.

18   As Defendants themselves emphasize in their supplemental briefing and expert reports, there are

19   reasons why the use of actual data may create problems, given the existence of the bid-ask spread.

20        Moreover, Defendants' plan to utilize the first methodology to cross-examine Professor

21   Heston may (assuming it occurs as noted in Dr. Seru's supplemental report) open the door to Dr.

22   Heston's explanation and defense of that methodology should he so choose to so testify.[3]

23

24   [2] As the Final Pretrial Conference Order explained, the use of one implied volatility for all options
with the same maturity is an assumption that is derived from the BSM model itself.  *See* Docket
25   No. 508 at 45.  The Court held that this assumption was sufficiently warranted for *Daubert*
purposes.  *Id.*

26   [3] In their supplemental opposition to Plaintiff's motion in limine, Defendants volunteered to
27   refrain from referencing the prior *Daubert* motion practice or asking Plaintiff's experts as to the
reason why they changed their methodology.  *See* Docket No. 633 at 1.  Nonetheless, if
28   Defendants elicit testimony regarding the first methodology, the witness may feel obliged to
explain why he rendered two different methodologies.

United States District Court
Northern District of California

1    In sum: now that the issues have evolved, and in light of the supplemental material

2    submitted by the parties, the Court finds that Professor Heston's original methodology (along with

3    his subsequent methodology) passes *Daubert*.  There is nothing so fundamentally wrong with

4    either of the methodologies employed by Professor Heston that would render them so unreliable as

5    to be inadmissible under *Daubert*.  Of course, they are subject to cross-examination.  The Court

6    **DENIES** Defendants' *Daubert* challenge to Professor Heston's use of artificial data to calculate

7    the "revalued fitted option value" (*i.e.* the "actual" price).  Plaintiff may choose to put on evidence

8    deriving from the first (and/or subsequent) methodologies at trial.

9    C.    Conclusion

10    For the foregoing reasons, Plaintiff's emergency motion in limine regarding stock option

11    damages is **DENIED**.  Defendants' *Daubert* challenge to Professor Heston's initial methodology

12    is also **DENIED.**

13    This order disposes of Docket No. 611.

14

15    **IT IS SO ORDERED**.

16

17    Dated: January 30, 2023

18

19    _____

20    EDWARD M. CHEN
     United States District Judge

21

22

23

24

25

26

27

28