

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

IN RE:

PAYMENT CARD INTERCHANGE FEE
AND MERCHANT DISCOUNT
ANTITRUST LITIGATION

MDL NO. 1720(MKB)(JO)

Civil No. 05-5075(MKB)(JO)

THIS DOCUMENT RELATES TO:

ALL ACTIONS

EXPERT REPORT OF MICHAEL A. WILLIAMS, PH.D.

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I. INTRODUCTION

A. *Summary of qualifications*

1. My name is Michael A. Williams. I am a Director at Competition Economics, LLC. I specialize in analyses involving antitrust, industrial organization, and regulation. I have published articles in a number of academic journals, including *Proceedings of the National Academy of Sciences*, *American Economic Review*, *Journal of Law and Economics*, *International Journal of Industrial Organization*, *Journal of Industrial Economics*, *Physica A*, *Journal of Economics and Management Strategy*, *Economics Letters*, *Journal of Public Economic Theory*, *Behavioral Science*, *Review of Industrial Organization*, *Antitrust Bulletin*, *Texas Law Review*, and the *Yale Journal on Regulation*.

2. I have provided testimony before the United States District Court, Middle District of Alabama; United States District Court, Western District of Arkansas; United States District Court, Central, Northern, and Southern Districts of California; United States District Court, District of Delaware; United States District Court, Middle District of Florida; United States District Court, Northern District of Georgia; United States District Court, Eastern Division, District of Idaho; United States District Court, Southern District of Illinois; United States District Court, District of Kansas; United States District Court, District of Massachusetts; United States District Court, District of Minnesota; United States District Court, District of New Jersey; United States District Court, Southern District of New York; United States District Court, Eastern District of Pennsylvania; United States District Court, Eastern District of Tennessee; United States District Court, Northern and Southern Districts of Texas; United States Court of Federal Claims; State of Connecticut, Superior Court; State of New Mexico, Second Judicial District; State of Nevada, Gaming Commission and State Gaming Control Board; and public utilities commissions in

Arkansas, Hawaii, Michigan, Minnesota, Missouri, Nebraska, New Mexico, Texas, and Washington.

3. I have been retained as an economic consultant by the U.S. Department of Justice, Antitrust Division, the U.S. Federal Trade Commission, and the Canadian Competition Bureau. Previously, I was an economist with the U.S. Department of Justice, Antitrust Division.

4. I hold a B.A. degree in economics from the University of California, Santa Barbara, and I received my M.A. and Ph.D. degrees in economics from the University of Chicago. My resume, which contains more information on my background and qualifications, is contained in Appendix I.

5. Competition Economics LLC is being compensated at my standard hourly rate of \$575, and neither my compensation nor the compensation of Competition Economics LLC is contingent on the outcome of this proceeding.

B. *Assignment*

6. I have been asked by Counsel for the Rule 23(b)(3) Class Plaintiffs¹ (“Class Plaintiffs”) to determine whether the proposed settlement amounts are reasonable from an economic perspective.² My understanding of the settlement amounts is that defendants agreed to

¹ The Class is defined as: “All persons, businesses, and other entities that have accepted any Visa-Branded Cards and/or Mastercard-Branded Cards in the United States at any time from January 1, 2004 to the Settlement Preliminary Approval Date, except that the Rule 23(b)(3) Settlement Class shall not include (a) the Dismissed Plaintiffs, (b) the United States government, (c) the named Defendants in this Action or their directors, officers, or members of their families, or (d) financial institutions that have issued Visa-Branded Cards or Mastercard-Branded Cards or acquired Visa-Branded Card transactions or Mastercard-Branded Card transactions at any time from January 1, 2004 to the Settlement Preliminary Approval Date.”

² See Memorandum in Support of Rule 23(b)(3) Class Plaintiffs Motion for Class Settlement Preliminary Approval (September 18, 2018) (hereinafter “Class Settlement Memorandum”), p. 1.

a maximum payment of approximately \$6.26 billion with a reduction of no more than \$700,000,000 to account for opt outs.

7. I have been provided with access to and have incorporated into my analyses prior reports prepared in this case by experts for Class Plaintiffs, defendants, opt out plaintiffs, and Dr. Sykes, an expert appointed by the Court. I also have researched publicly available information on antitrust settlements. A detailed list of the materials and resources I considered in the preparation of this report is contained in Appendix II.

C. *Overview of opinions*

8. This section summarizes my findings and conclusions. The facts or data upon which I am basing the opinions and inferences discussed in this report are of a type reasonably relied upon by experts in the field of Industrial Organization.³ My primary conclusions are summarized as follows:

- Economists have studied the economic characteristics of settlements. There exists a large amount of information and data concerning settlements of antitrust cases. This economic research provides useful information to economists analyzing the economic characteristics of antitrust settlements, including the economic reasonableness of settlements.

³ The field of Industrial Organization has been defined as: “the study of the structure of firms and markets and of their interactions.” Carlton, D. and Perloff, J. (2005), *Modern Industrial Organization*, 4th ed., Boston, MA: Pearson Addison-Wesley, p. 2. As one well-known textbook summarizes: “A focus and concern with market power underpins industrial organization. . . . What are the determinants of market power? How do firms create, utilize, and protect it? When are antitrust enforcement or regulation appropriate policy responses to the creation, maintenance, or exercise of market power?” Church, J. and Ware, R. (2000), *Industrial Organization: A Strategic Approach*, Boston, MA: Irwin McGraw-Hill, p. vii. For this reason, Industrial Organization textbooks contain extended analyses of antitrust issues. *See, e.g.*, Carlton, D. and Perloff, J. (2005), *Modern Industrial Organization*, 4th ed., Boston, MA: Pearson Addison-Wesley, Chapters 4, 5, 11, and 19; Church, J. and Ware, R. (2000), *Industrial Organization: A Strategic Approach*, Boston, MA: Irwin McGraw-Hill, Chapters 1, 5, 6, 7, 10, 19, 20, 21, 22, and 23; and Belleflame, P. and Peitz, M. (2015), *Industrial Organization: Markets and Strategies*, Cambridge University Press, Chapters 14, 15, 16, and 17.

- Using a database of 71 past settlements of antitrust cases, including numerous class actions, I perform an econometric analysis to study the relationship between settlements and the magnitude of damages claimed by the settling plaintiffs. This study investigates whether there is a systematic statistical relationship between changes in the size of antitrust settlement amounts and changes in the size of the damages claimed in the antitrust cases.
- My study finds that there is such a systematic relationship. Using this relationship, I estimate, based on prior settlements, what would reasonably be predicted to be the amount of a settlement of a case with the damages claimed by plaintiffs here.
- Using updated damages estimates provided by Class Plaintiffs' expert Dr. Frankel, I compare (1) the settlement amounts predicted by my regression model for a case with the damages characteristics of this case with (2) the settlement amounts achieved by plaintiffs in the settlement under consideration in the present case. The settlement amounts obtained by Class Plaintiffs here are similar to (although somewhat larger than) the settlement amounts predicted by my regression model for a case with damages in the range of the damages here.
- The economic reasonableness of the settlement amounts in the settlement at issue in this case is further confirmed by the fact that this case involves unusually large risks. The economic literature and the data I analyzed both support the conclusion that greater risk inhering in a case puts downward pressure on the likely settlement amount.
- From my investigation and statistical analyses, including the econometric model I describe, I conclude that, from an economic perspective, the settlement amounts of the proposed settlement in this case are reasonable.

D. *Outline of report*

9. Section II briefly describes the background to the current matter, as well as known risks associated with damages recovery for the Class Plaintiffs. Section III briefly summarizes the primary economic literature on antitrust settlements. Section IV presents my econometric analysis of the proposed settlement. Section V contains my conclusions.

II. LITIGATION BACKGROUND

10. I understand that the current litigation between Class Plaintiffs and defendants has taken place over a 13-year period, involving tens of millions of pages of disclosed documents,

hundreds of depositions, and thousands of pages of expert reports.⁴ I understand that the parties sought a settlement totaling \$5.3 billion, after reductions, in 2012. However, approval of that settlement was reversed by the Court of Appeals which took issue with the joint representation by Class Counsel of both an opt-out, damages-only and a non-opt-out injunctive relief class.⁵ I understand that Counsel for the Class Plaintiffs now seek approval of a settlement ranging from approximately \$5.56 billion to \$6.26 billion on behalf of a damages-only, Rule 23(b)(3) class.⁶

A. *Estimated Damages Vary Widely Implying Risk as to the Amount of Damages Recovery*

11. The estimation of damages by experts has varied widely in this case. Dr. Alan Frankel's updated damages estimates for the Class Plaintiffs for the period 2004-2018 range from \$463.83 billion to \$754.33 billion.⁷ In contrast, Defendants' damages expert, Dr. Robert Topel's damages estimates for the Class Plaintiffs were much lower (less than 0.5%) than those estimated by Dr. Frankel. In his Expert Report, Dr. Topel uses a damages period of 2004-2008. *See* Expert Report of Robert H. Topel (December 14, 2009), Exhibits 17A-17D. For that period, his damages estimates range from \$402 million to \$1.22 billion. Here I conservatively increase Dr. Topel's damages estimates so they apply to the same 2004-2018 period used by Dr. Frankel in his updated analysis. Dr. Topel has five years in his damages period, and Dr. Frankel has fifteen years in his updated analysis. Assuming a proportional relationship, Dr. Topel's damages estimates would be multiplied by three in order to apply to the 2004-2018 period. The resulting damages estimates for the extended 2004-2018 period range from \$1.21 billion to \$3.66 billion. Other experts in this case

⁴ *See* Class Settlement Memorandum, pp. 2-8.

⁵ *See* Class Settlement Memorandum, pp. 3-4.

⁶ *See* Class Settlement Memorandum, p. 1.

⁷ Frankel Settlement Analysis Update.xlsx, Updated Table 9.10.

employ estimation approaches that differ from those employed by Dr. Frankel (and Dr. Topel) and imply different damages numbers from those reached by either Dr. Frankel or Dr. Topel. As the variety of approaches and large range of damages indicate, experienced economists have reached significantly different damages estimates for the alleged anticompetitive conduct in this case.

12. Even assuming the Class Plaintiffs were to prevail on liability in this case, they do not know which damages theory the jury would adopt. As a result, there is significant uncertainty surrounding the outcome of the litigation in this matter, including the potential for recovery of damages that are a small fraction of the offered settlement, even if liability were established.

B. Class Plaintiffs Bear Significant Risk of No or Substantial Reduced Recovery

13. There is significant litigation risk for the Class Plaintiffs that could reasonably result in no recoverable damages. Such risk was found by the Court's appointed economic expert, Dr. Alan Sykes, who concluded in 2013 after the first settlement that "the expected returns to continued litigation are highly uncertain, and that plaintiffs' face a substantial probability of securing little or no relief at the conclusion of trial."⁸ Dr. Sykes found that the previously proposed settlement was not "unreasonable in relation to the expected recovery in litigation" given his finding of "a substantial probability that plaintiffs may recover nothing through continued litigation."⁹

14. For example, I understand that Dr. Sykes found significant uncertainty in whether the "initial public offerings by both defendants and to the question whether their conversion from a joint venture to a stand-alone entity cleanses their business practices of any horizontal or

⁸ Memorandum of Alan O. Sykes to the Honorable John Gleeson (August 28, 2013), p. 3.

⁹ Memorandum of Alan O. Sykes to the Honorable John Gleeson (August 28, 2013), p. 47.

‘conspiratorial’ element.”¹⁰ An adverse finding against the Class Plaintiffs on these issues would significantly reduce the Class Plaintiffs’ damages period and, hence, reduce any damages to the class by a very large extent.

15. The Honorable H. Lee Sarokin (Ret.) has identified other factors that pose significant risks to the Class Plaintiffs.¹¹ In his declaration in the current matter, Judge Sarokin discusses a variety of legal issues that pose significant risk to the Class Plaintiffs being successful in this litigation including significant *Illinois Brick* issues;¹² the application to this case of the “two-sided market” analysis endorsed by the United States Supreme Court in the *Ohio et al. v. American Express et al.* opinion;¹³ the release arising from the prior *VisaCheck* litigation;¹⁴ and the Eleventh Circuit’s prior opinion in *NaBanco*, which found that “so long as a practice [such as interchange fees] is ‘fairly necessary’ to achieve a legitimate purpose, it is not unlawful under the Rule of Reason.”¹⁵ These significant legal risks also have the effect of increasing the chances that the Class Plaintiffs will recover nothing or a substantially reduced amount of damages.

16. As I explain below, both the economic literature and the data on prior settlements suggest that an increase in risk of the litigation has a depressing effect on the size of the settlement amount, all else equal. In this case, there appears to me to be a high degree of risk, and this would

¹⁰ Memorandum of Alan O. Sykes to the Honorable John Gleeson (August 28, 2013), p. 7.

¹¹ Declaration of the Honorable H. Lee Sarokin on the Risks of Litigation (June 7, 2019) (hereinafter “Sarokin Declaration”), *e.g.*, ¶¶9-44.

¹² Sarokin Declaration, ¶¶28-36. Judge Sarokin also addresses the defendants’ motions to exclude the testimony of Dr. Frankel which, if successful, would undermine the ability of the Class Plaintiffs to pursue damages. *Id.*, ¶¶19-20.

¹³ Sarokin Declaration, ¶¶24-36.

¹⁴ Sarokin Declaration, ¶¶37-44.

¹⁵ Sarokin Declaration, ¶¶12-17

suggest that this factor would imply a lower settlement amount than that predicted by my regression (see Section IV).

III. ECONOMIC LITERATURE ON ANTITRUST SETTLEMENTS

17. There is an extensive economic literature on antitrust settlements. Economists have analyzed antitrust litigation in order to better understand the economic factors contributing to the settlement of litigation. The literature demonstrates that economic characteristics of antitrust litigation incentivize settlement.¹⁶ I have reviewed that literature to explore the economic rationale for settling litigation and to collect and analyze real-world data on antitrust settlements.

18. Here I focus on a study by Professor John Connor and Robert Lande.¹⁷ In their 2015 article, Connor and Lande analyze 71 U.S cartel cases since 1990 to compare the ratio of settlements to estimated damages (the “recovery ratio”). Connor and Lande find that the median recovery ratio for the 71 cartel cases (both class and non-class cases; both cases following and not following criminal convictions; and both direct and indirect cases) equals 36.7% of single damages, or 12.2% of the trebled damages amount.¹⁸ The weighted average of the recovery ratio (where the weights are the dollar value of damages) equals 19.5% of single damages, or 6.5% of the trebled damages amount.¹⁹

¹⁶ See, e.g., Perloff, J. and Rubinfeld, D. (1988), “Settlements in Private Antitrust Litigation,” in Lawrence J. White, *Private Antitrust Litigation: New Evidence, New Learning*, Cambridge, MA: MIT Press, 1988, Chapter 4; and Perloff, J., Rubinfeld, D., and Ruud, P. (1996), “Antitrust Settlements and Trial Outcomes,” *Review of Economics and Statistics*, vol. 78, pp. 401-409.

¹⁷ Connor, J. and Lande, R. (2015), “Not Treble Damages: Cartel Recoveries Are Mostly Less Than Single Damages,” *Iowa Law Review*, vol. 100, pp. 1997-2023. Professor Connor is Senior Fellow, American Antitrust Institute and Professor Emeritus of Economics at Purdue University. He has written many peer-reviewed articles on antitrust issues, and for many years has developed and maintained a database of information on cartels. Professor Lande is Venable Professor of Law at the University of Baltimore and a Director of the American Antitrust Institute.

¹⁸ Connor and Lande (2015), p. 2010.

¹⁹ Connor and Lande (2015), p. 2010.

19. Their findings show that the recovery ratio (that is, the amount of the settlement as compared to the amount of estimated damages claimed) decreases as the dollar value of damages increases. In other words, as damages increase, settlements as a percentage of damages decrease. This fact plays an important role in analyzing the proposed settlement in the present case, implying that as the size of the damages claimed in a case increases, one would expect that the amount of the settlement, in relation to the damages claimed, will become smaller (see Section IV). Connor and Lande also find that private damages cases are placed on “surer footing” if they are “preceded by criminal convictions,” since the median recovery ratio of settlement amounts to damages claimed for suits following a criminal conviction is 52.4%, compared to 22.7% of single damages for suits not following a criminal conviction.²⁰ This means that a private civil case that follows on a criminal conviction is less risky than a private civil case with no prior criminal conviction. This finding supports the conclusion that a riskier case is associated with a lower settlement amount in relation to the damages sought. The present matter was not preceded by a criminal conviction and (as discussed in Section II) is characterized by unusual risk to the plaintiffs. These factors imply (all else equal) a settlement with a smaller settlement amount, as compared to the damages claimed (i.e., a lower recovery ratio).

20. Also of interest, 14 of the 71 recovery ratios were greater than 100% of single damages, while 16 of the 71 were less than 10% of single damages (including four that were less than 1%).²¹ This wide range of recovery ratios in cartel settlements demonstrates wide latitude for determining the “reasonableness” of any given settlement, as the case-specific facts and

²⁰ Connor and Lande (2015), pp. 2010-2011.

²¹ Connor and Lande (2015), pp. 2010 and 2012.

expectations that influence settlement vary widely from case to case. This finding has particular relevance given the significant range of estimated damages in the matter at issue.

IV. EMPIRICAL ANALYSIS OF THE SETTLEMENT AT ISSUE IN THIS CASE

21. In this section, I examine econometrically the relationship between settlements and claimed antitrust damages, using the Connor and Lande data.²² I then apply Dr. Frankel's updated damages calculations to the econometrically estimated relationship between claimed damages and settlement amounts to predict what likely would be the settlement amount in the present case. I find substantial similarity between (1) the settlement amounts predicted in the present case by the econometric analysis of prior settlements and (2) the settlement amount achieved in the settlement in this case. This finding tells me that the settlement amounts negotiated by plaintiffs in the settlement at issue here are well within the range of what one would have expected, based on my regression analysis of prior settlements²³ and, hence, supports my opinion that the settlement amount in this case is economically reasonable.

A. *Data*

22. As summarized by Connor and Lande: "We assembled a sample consisting of every completed private U.S. cartel case discovered from 1990 to mid-2014 for which we could find the necessary information. For each of these 71 cases we collected, we assembled neutral scholarly estimates of affected commerce and [damages]."²⁴

²² Professor Connor generously provided me with the data used Connor and Lande (2015). Based on my investigation, I believe the Connor and Lande data are the best available data on settlements.

²³ Stated differently, the finding suggests that the settlement amounts achieved in this case are consistent with the settlement amounts of previously settled cartel cases, with respect to their relationships to the damages claimed.

²⁴ Connor and Lande (2015), p. 1997.

B. *Econometric analysis of the proposed settlement*

23. I use the Connor and Lande data to perform a regression analysis to study the relationship between settlement amounts and damages claimed.²⁵ A regression is an equation which seeks to represent, in a statistically rigorous way, the relationship between one variable and one or more other variables. On the left-hand side of the equation is the dependent variable (in this case the settlement amounts). The observed settlement amounts vary from case to case. The goal of the regression analysis is to identify (on the right-hand side of the equation) independent variables that can explain or predict the variation in settlement amounts.

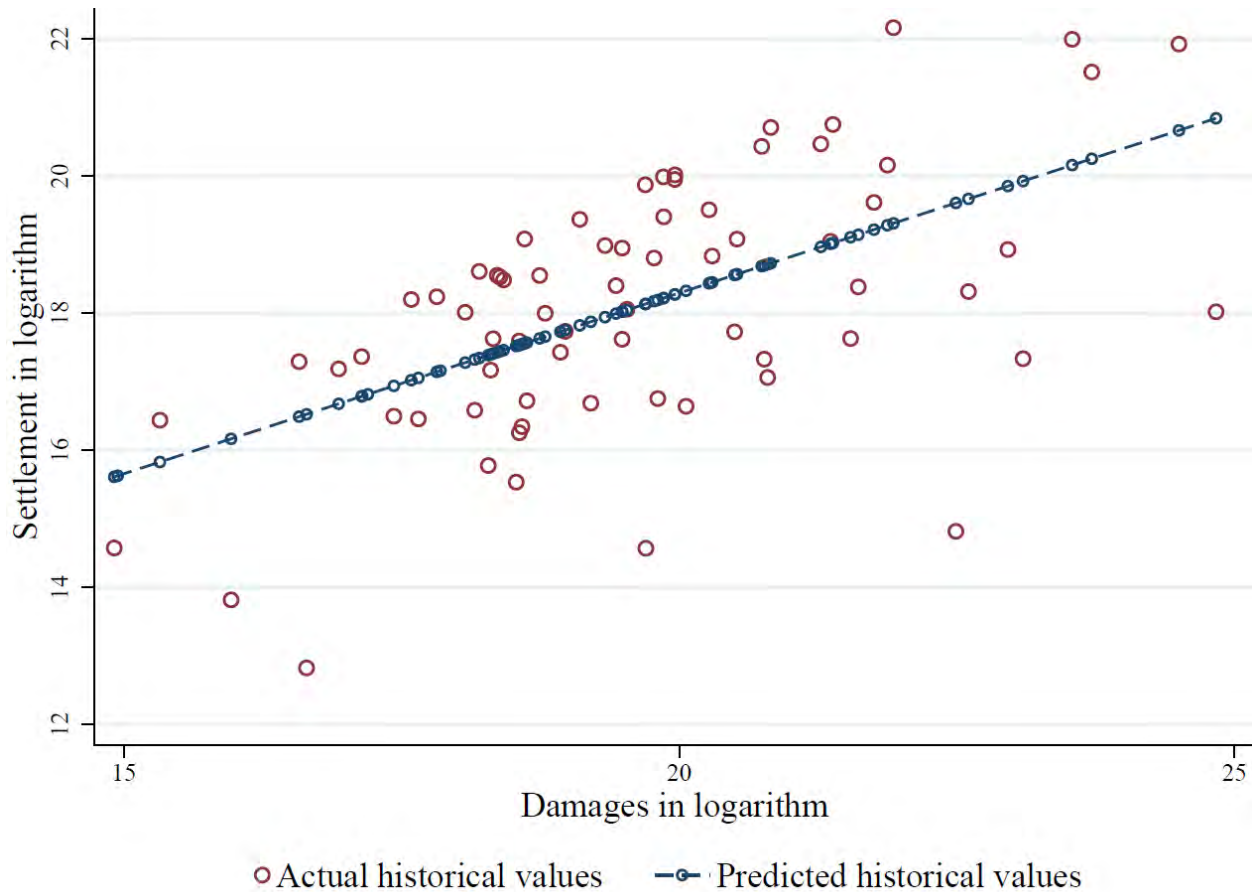
24. My primary regression uses as the independent variable the damages amounts claimed in the antitrust cases examined by Professors Connor and Lande to explain variation in settlement amounts in those cases. After estimating the relationship between damages and settlements, I use Dr. Frankel's updated damages amounts (see Table 1) to determine what that statistical relationship (estimated by my regression equation) would predict as the likely settlement amounts in the present case. I then compare (1) the settlement amounts the regression equation predicts for a settlement in a case with damages estimates like those in the present case to (2) the settlement amounts obtained by the Class Plaintiffs in the settlements in this case. If the predicted settlement amounts are relatively close to the settlement amounts obtained by the settlement in this case, that would provide evidence that the settlement amounts obtained in this case are consistent with the econometrically estimated relationship between damages and settlement amounts in the antitrust cases studied by Professors Connor and Lande. Such a finding would provide empirical

²⁵ See, e.g., "Reference Guide on Multiple Regression," Reference Manual on Scientific Evidence, 3rd ed., Federal Judicial Center (2011).

economic support for the conclusion that the settlement amounts obtained in the present case are reasonable.

25. As discussed above, the results of Connor and Lande show that the recovery ratio decreases as the dollar value of estimated damages increases. Thus, a nonlinear relationship exists between settlements and damages—all else equal, an increase in damages leads to a lower recovery ratio. For this reason, in the regression I specify as the dependent variable the log of the settlement value. Using the logs of the variables effectively transforms the nonlinear relationship between settlements and damages into a linear relationship (see Figure 1). The independent or explanatory variable is the log of the damages amount. The estimated regression is shown in Figure 1 (see also Table A1 in Appendix III). As expected, settlement amounts increase as the claimed damages increase, but the settlement amount, as a percentage of the claimed damages, decreases.

FIGURE 1
ESTIMATED RELATIONSHIP BETWEEN SETTLEMENTS AND DAMAGES
(IN LOGARITHM)



Note: All values are converted into 2018 dollars.

26. As shown in Figure 1, there is a linear (in the logs) relationship between settlements and damages. Each brown circle shows a particular combination of a damages amount and a settlement amount from one of the antitrust cases in the Connor and Lande data. Each blue circle shows the settlement amount predicted by the regression corresponding to the damages amount in a given case.

27. I use this estimated regression model to predict settlement amounts in this case. In his expert report prepared on behalf of Class Plaintiffs, Dr. Frankel provided eight alternative

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damages calculations for the period 2004 through the first half of 2009.²⁶ Dr. Frankel provided me with updated damages estimates through 2018. Those updated damages estimates are shown in Table 1.

²⁶ Report of Alan S. Frankel, Ph.D. (July 2, 2009), p. 155, Table 9.10.

TABLE 1
DR. FRANKEL'S UPDATED ESTIMATED DAMAGES SUMMARY
(BILLIONS OF DOLLARS)

Year	Combined Total Primary Damages		Alternative Damages					
			UK		Australia		EU	
	Unadjusted	CPI Adjusted	Unadjusted	CPI Adjusted	Unadjusted	CPI Adjusted	Unadjusted	CPI Adjusted
2004	24.6	32.7	15.7	20.8	19.6	26.1	21.6	28.7
2005	29.1	37.4	19.2	24.7	23.6	30.4	25.8	33.2
2006	33.1	41.2	22.2	27.7	27.0	33.7	29.4	36.7
2007	36.6	44.4	24.7	30.0	30.0	36.4	32.7	39.6
2008	38.6	45.1	26.8	31.2	32.0	37.4	34.7	40.4
2009	39.1	45.7	27.6	32.3	32.7	38.3	35.3	41.3
2010	42.8	49.3	31.0	35.7	36.3	41.8	38.9	44.8
2011	44.4	49.5	31.9	35.6	37.4	41.8	40.2	44.9
2012	41.6	45.5	28.4	31.0	34.3	37.5	37.2	40.7
2013	45.3	48.8	30.9	33.3	37.3	40.2	40.5	43.6
2014	49.7	52.8	33.8	35.9	40.9	43.4	44.4	47.1
2015	54.2	57.5	36.8	39.0	44.6	47.2	48.4	51.3
2016	60.1	62.8	40.6	42.5	49.2	51.5	53.6	56.1
2017	66.5	68.2	44.7	45.7	54.4	55.7	59.2	60.7
2018	73.5	73.5	49.5	49.5	60.2	60.2	65.5	65.5
Total	679.3	754.3	463.8	515.0	559.6	621.4	607.4	674.6

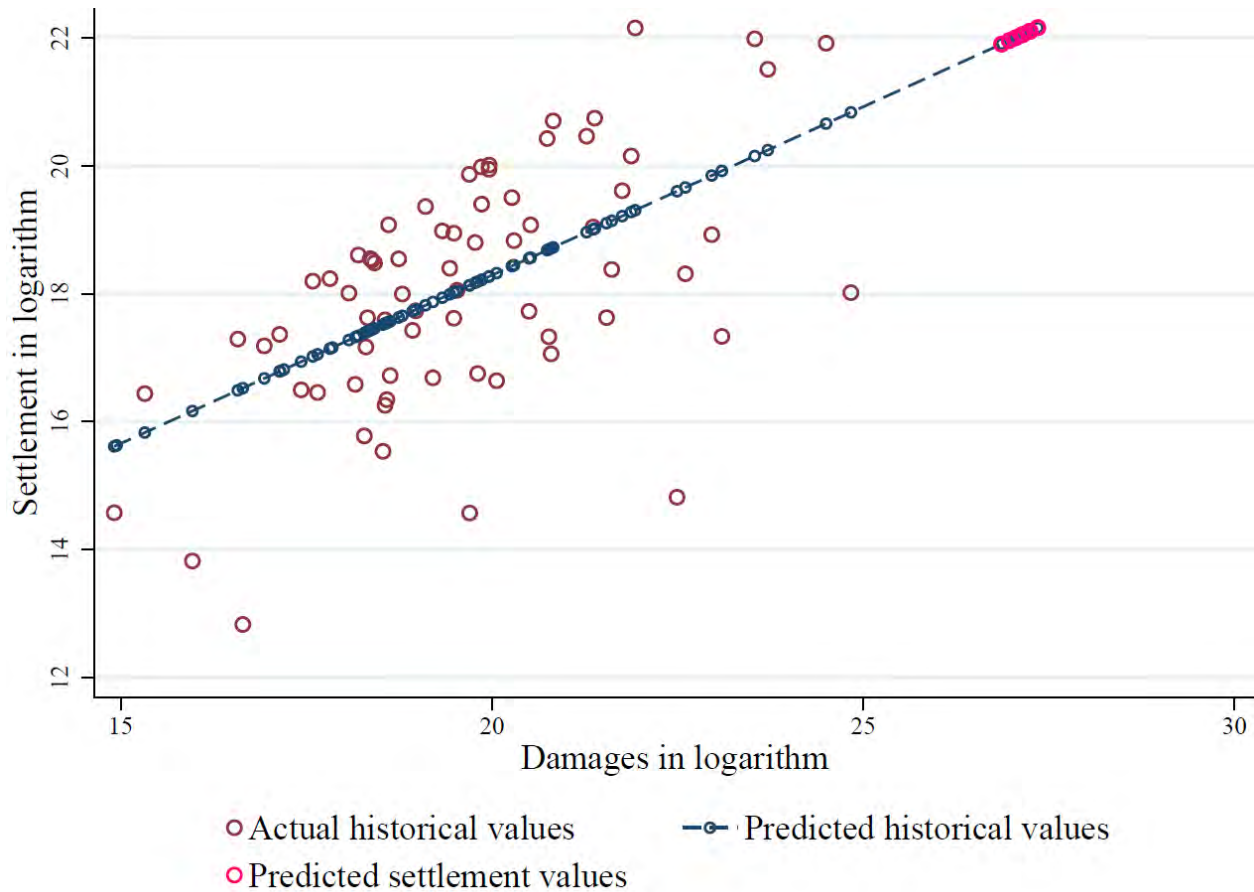
Source: Frankel Settlement Analysis Update.xlsx.

28. As shown in Table 1, Dr. Frankel’s updated damages contain his “Combined Total Primary Damages” estimates, as well as three alternative damages estimates. As Dr. Frankel explained in his expert report, he calculated “the percentage reductions to the actual world interchange fee rates that prevailed in the United States since 2004 that would have been required to attain three benchmark interchange fee rates: the UK consumer credit rate, the rate which is now prevailing in Australia, and the MasterCard cross-border rate recently accepted in the European Union based on the ‘avoided cost’ methodology—a methodology, as [Dr. Frankel] explained, which is consistent with economic theory concerning what would determine an average interchange rate, if any, under competitive conditions.”²⁷ Finally, for each of his damages estimates, Dr. Frankel calculated damages both (1) unadjusted for inflation and (2) adjusted for inflation using the consumer price index (“CPI”).

29. Using the regression model described in ¶¶ 24-25, above, and represented in Figure 1, I predict what settlement amounts likely would occur in a settlement in a case with damages claims in the amounts of Dr. Frankel’s eight updated damages estimations (see Figure 2). Dr. Frankel’s eight damages estimations serve as an upper bound of potential damages, as they are by far the largest damages amounts estimated by the many experts in the litigation. As noted above, Dr. Robert Topel’s damages estimates for the Class Plaintiffs were less than 0.5% of those estimated by Dr. Frankel. Given the wide range of damages estimations in this case, by Dr. Frankel and other experienced economists, I conservatively chose to use in my investigation the highest damages estimates—those estimated by Dr. Frankel.

²⁷ Report of Alan S. Frankel, Ph.D. (July 2, 2009), p. 151.

FIGURE 2
PREDICTED SETTLEMENTS GIVEN DR. FRANKEL'S DAMAGE ESTIMATES
(IN LOGARITHM)



Note: All values are converted into 2018 dollars.

30. I next compare (1) the settlement amounts predicted by the regression model with (2) the settlement amounts in the proposed settlement in the present case, which range from approximately \$5.56 billion to \$6.26 billion. As shown in Table 2 and Figure 3, the settlement amounts obtained in this case are similar to, but higher than, the proposed settlement amounts predicted by my regression model for cases with damages similar to this case. This suggests that the settlement amounts Class Plaintiffs' counsel negotiated with defendants are higher than what previous settlements would have predicted and provides an empirical basis for my opinion that the settlement amounts in the proposed settlement are economically reasonable. As stated above, I

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conservatively chose Dr. Frankel’s damages estimations as the independent variable data. If I had used lower damages estimates, such as those estimated by Dr. Topel, the result of my regression analysis would have shown that the settlement amounts obtained by Class Plaintiffs in this case and at issue here were much higher than would have been expected and, hence, would provide even stronger empirical support for my opinion that the settlement amounts here are economically reasonable.

TABLE 2
COMPARISON OF PREDICTED AND PROPOSED SETTLEMENTS
(BILLIONS OF DOLLARS)

Dr. Frankel’s Alternative Damages Scenarios	Dr. Frankel’s Updated Damages Estimates	Predicted Settlement Amounts	Proposed Settlement Amount: Lower Bound	Proposed Settlement Amount: Upper Bound
US - Adjusted CPI	754.33	4.22	5.56	6.26
US – Unadjusted	679.26	3.99	5.56	6.26
UK - Adjusted CPI	515.00	3.45	5.56	6.26
UK – Unadjusted	463.83	3.26	5.56	6.26
Australia - Adjusted CPI	621.37	3.81	5.56	6.26
Australia – Unadjusted	559.58	3.60	5.56	6.26
EU - Adjusted CPI	674.55	3.98	5.56	6.26
EU - Unadjusted	607.45	3.76	5.56	6.26

FIGURE 3
COMPARISON OF PREDICTED AND PROPOSED SETTLEMENTS
(IN LOGARITHM)

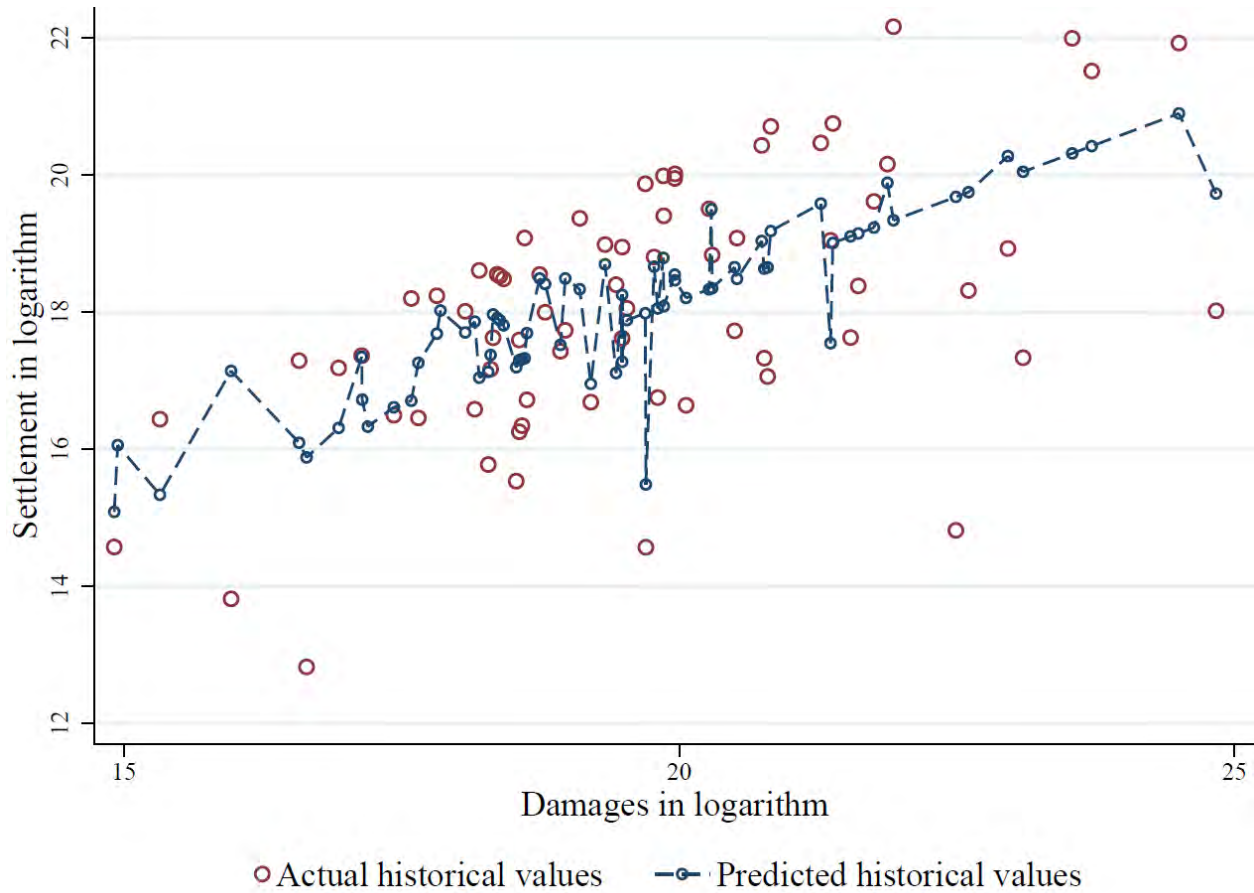


Note: All values are converted into 2018 dollars.

31. As a robustness check on the results of my primary regression and also as a way to control for a representation of risk, I performed an alternative regression analysis with additional explanatory variables consisting of (1) the ratio of criminal fines over damages and (2) a variable indicating whether fines were charged in a case or not. The presence of criminal fines is a good indicator that the civil damages case is less risky. Conversely, the absence of criminal fines would indicate that the civil damages case is more risky. The estimated regression is shown in Figure 4 (see also Table A2 in Appendix III).

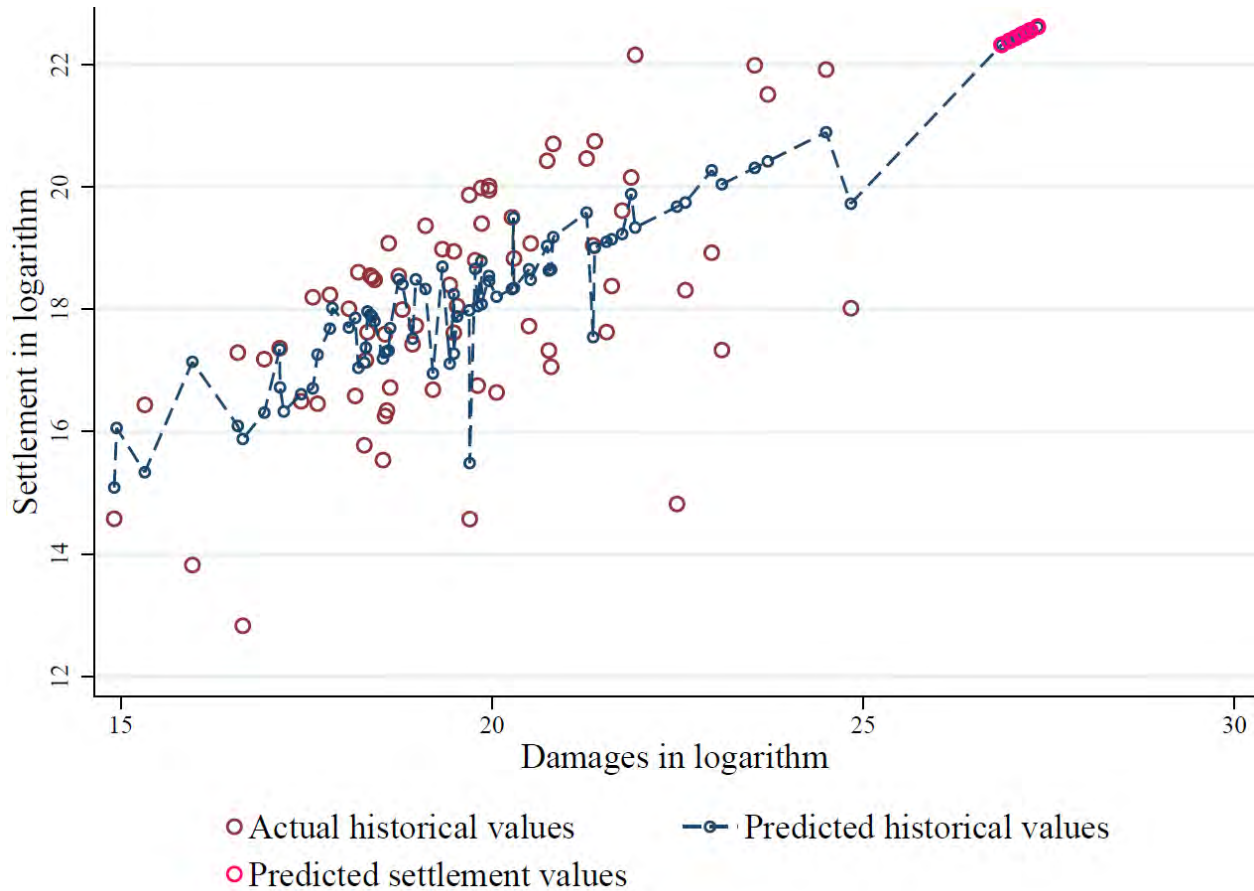
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FIGURE 4
ALTERNATIVE REGRESSION MODEL
ESTIMATED RELATIONSHIP BETWEEN SETTLEMENTS AND DAMAGES
(IN LOGARITHM)



32. Using this alternative regression model, I can predict what settlement amounts likely would occur in a settlement in a case with damages claims in the amounts of Dr. Frankel's eight updated damages estimations (see Figure 5).

FIGURE 5
ALTERNATIVE REGRESSION MODEL
PREDICTED SETTLEMENTS GIVEN DR. FRANKEL'S DAMAGE ESTIMATES
(IN LOGARITHM)



33. I next compare (1) the settlement amounts predicted by the alternative regression model with (2) the settlement amounts in the proposed settlement in the present case. As shown in Table 3 and Figure 6, the settlement amounts obtained in this case are similar to the proposed settlement amounts predicted by my regression model for cases with damages similar to this case. This finding further supports my conclusion that the settlement amounts in the proposed settlement are economically reasonable.

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TABLE 3
 ALTERNATIVE REGRESSION MODEL
 COMPARISON OF PREDICTED AND PROPOSED SETTLEMENTS
 (BILLION DOLLARS)

Dr. Frankel's Alternative Damages Scenarios	Dr. Frankel's Updated Damages Estimates	Predicted Settlement Amounts	Proposed Settlement Amount: Lower Bound	Proposed Settlement Amount: Upper Bound
US - Adjusted CPI	754.33	6.66	5.56	6.26
US - Unadjusted	679.26	6.25	5.56	6.26
UK - Adjusted CPI	515.00	5.29	5.56	6.26
UK - Unadjusted	463.83	4.96	5.56	6.26
Australia - Adjusted CPI	621.37	5.93	5.56	6.26
Australia - Unadjusted	559.58	5.56	5.56	6.26
EU - Adjusted CPI	674.55	6.23	5.56	6.26
EU - Unadjusted	607.45	5.84	5.56	6.26

FIGURE 6
ALTERNATIVE REGRESSION MODEL
COMPARISON OF PREDICTED AND PROPOSED SETTLEMENTS
(IN LOGARITHM)



34. This alternative regression shows that the model predicts higher settlements when fines were charged in a case (see Table A2 in Appendix III). Moreover, the alternative regression also shows that for cases where a fine was charged, the higher the fine, the higher the predicted settlement. These results confirm Connors and Lande's observations that civil cases associated with criminal proceedings result in higher settlement amounts in relation to damages claimed. These findings provide further support for my opinion that the settlement amounts achieved by class plaintiffs here are economically reasonable.

V. CONCLUSIONS

35. Economists have studied the relationship between settlements and damages in antitrust cases. The results of these economic studies show that settlement amounts increase as claimed damages increase, but the ratio of settlement amounts to claimed damages falls as damages increase.

36. Using a database compiled by Professors Connor and Lande, I study econometrically the relationship between settlements and damages.

37. Using updated, estimated damages calculations provided by Dr. Frankel, I compare (1) the settlement amounts for a settlement with the relevant economic characteristics of this case as predicted by my regression model with (2) the settlement amounts in the settlement proposed for approval in the present case. The settlements achieved by Class Plaintiffs in this case are similar to, but higher than, the settlement amounts predicted by my regression model, providing empirical evidence for my opinion that the amounts of monetary compensation in the proposed settlements are economically reasonable.

38. I conclude that, from an economic perspective, considering the amounts of damages claimed in this case and the risks involved, the amounts of monetary compensation in the settlement proposed for approval in this case are economically reasonable when examined in comparison to the damages estimated by the plaintiffs' and defendants' experts.

HIGHLY CONFIDENTIAL

June 7, 2019

A handwritten signature in black ink that reads "Michael A. Williams". The signature is written in a cursive style with a large initial 'M'.

Michael A. Williams

APPENDIX I: RESUME

MICHAEL A. WILLIAMS

I am a Director at Competition Economics, LLC. I specialize in analyses involving antitrust, industrial organization, and regulation. I have published articles in a number of academic journals, including the *Proceedings of the National Academy of Sciences*, *American Economic Review*, *Journal of Industrial Economics*, *International Journal of Industrial Organization*, *Journal of Law and Economics*, *American Law and Economics Review*, *Journal of Economics and Management Strategy*, *Review of Industrial Organization*, *Journal of Institutional and Theoretical Economics*, *Economics Letters*, *Journal of Public Economic Theory*, *Behavioral Science*, *Antitrust Bulletin*, *Physica A*, *Texas Law Review*, and *Yale Journal on Regulation*.

I have provided written and/or oral testimony before:

- United States District Court, Middle District of Alabama
- United States District Court, Western District of Arkansas
- United States District Court, Central, Northern, and Southern Districts of California
- United States District Court, District of Delaware
- United States District Court, Middle District of Florida
- United States District Court, Northern District of Georgia
- United States District Court, Eastern Division, District of Idaho
- United States District Court, Southern District of Illinois
- United States District Court, District of Kansas
- United States District Court, District of Massachusetts
- United States District Court, District of Minnesota
- United States District Court, District of New Jersey
- United States District Court, Southern District of New York
- United States District Court, Eastern District of Pennsylvania
- United States District Court, Eastern District of Tennessee
- United States District Court, Northern and Southern Districts of Texas

- United States Court of Federal Claims
- State of Connecticut, Superior Court
- State of New Mexico, Second Judicial District
- State of Nevada, Gaming Commission and State Gaming Control Board
- Public utilities commissions: Arkansas, Hawaii, Michigan, Minnesota, Missouri, Nebraska, New Mexico, Texas, and Washington

I have been retained as an economic consultant by the U.S. Department of Justice, Antitrust Division, the U.S. Federal Trade Commission, and the Canadian Competition Bureau.

Previously, I was an economist with the U.S. Department of Justice, Antitrust Division. I hold a B.A. degree in economics from the University of California, Santa Barbara, and I received my M.A. and Ph.D. degrees in economics from the University of Chicago.

TESTIMONY AND EXPERT REPORTS (PAST FOUR YEARS)

UNITED STATES DISTRICT COURT, DISTRICT OF MASSACHUSETTS

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UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF CALIFORNIA

In Re: Packaged Seafood Products Antitrust Litigation.

Expert reports, deposition testimony (filed under seal), and trial testimony regarding antitrust claims, 2018-2019.

UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF NEW YORK

Alaska Electrical Pension Fund, et al., v. Bank of America, N.A.; et al.

Expert reports and deposition testimony regarding antitrust claims (filed under seal), 2017-2018.

UNITED STATES DISTRICT COURT, MIDDLE DISTRICT OF FLORIDA

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UNITED STATES DISTRICT COURT, WESTERN DISTRICT OF ARKANSAS

In Re: Global Tel*Link Corporation Litigation

Expert reports regarding plaintiffs' claims (filed under seal), 2017.

UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF ILLINOIS

Brian Flynn et al. v. FCA US LLC and Harmon International Industries, Inc.

Expert reports and deposition testimony regarding damages (filed under seal), 2017.

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Expert report and trial testimony regarding class certification and damages, 2017.

UNITED STATES DISTRICT COURT, CENTRAL DISTRICT OF CALIFORNIA
Hrayr Shahinian, M.D., F.A.C.S., et al. v. Kimberly-Clark Corporation and Halyard Health, Inc.
Expert reports regarding class certification and damages, 2016.

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In Re Aluminum Warehousing Antitrust Litigation
Expert declaration regarding antitrust claims (filed under seal), 2016.

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Comments of the U.S. Department of Justice Before the Federal Communications Commission, “The Bell Atlantic Telephone Companies’ Offer of Comparably Efficient Interconnection to Enhanced Service Providers,” Docket No. 85-229, June 15, 1987.

Comments of the U.S. Department of Justice Before the Federal Communications Commission, “Decreased Regulation of Certain Basic Telecommunications Services,” Docket No. 86-421, March 6, 1987.

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APPENDIX II: DOCUMENTS RELIED UPON

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Other

Frankel Settlement Analysis Update.xlsx

2019-04-26 - PIC dataset Original - Corrected.xlsx

APPENDIX III: RESULTS OF REGRESSION ANALYSIS

TABLE A1
REGRESSION MODEL

Dependent Variable: Settlement amounts in logarithm	
Independent Variables	Estimate
Damages in logarithm	0.5266 ***
T-stat	4.7900
P-value	0.0000
Constant	7.7594 ***
T-stat	3.6800
P-value	0.0000
Observations	70
R-squared	0.34

Notes:

*** indicates statistical significance at 1 percent level.

The dataset provided by Professor Connor has 75 observations. Five of the observations have a settlement value equal to zero. These five observations are dropped, resulting in the final dataset with 70 observations.

TABLE A2
ALTERNATIVE REGRESSION MODEL

Dependent Variable: Settlement amounts in logarithm	
Independent Variables	Estimate
Damages in logarithm	0.6057 ***
T-stat	5.9000
P-value	0.0000
Variable indicating whether fines were charged in a case or not	1.1032 ***
T-stat	2.9600
P-value	0.0040
The ratio of fines over damages in logarithm	0.4219 ***
T-stat	3.3100
P-value	0.0020
Constant	6.0559 ***
T-stat	3.1100
P-value	0.0030
Observations	70
R-squared	0.43

Notes:

*** indicates statistical significance at 1 percent level.

The dataset provided by Professor Connor has 75 observations. Five of the observations have a settlement value equal to zero. These five observations are dropped, resulting in the final dataset with 70 observations.