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**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA**

Case No. 3:19-cv-07151-MMC

THE CITY OF SEATTLE, IMMIGRANT  
LEGAL RESOURCE CENTER, CATHOLIC  
LEGAL IMMIGRATION NETWORK, INC.,  
SELF-HELP FOR THE ELDERLY,  
ONEAMERICA, AND CENTRAL  
AMERICAN RESOURCE CENTER OF  
CALIFORNIA,

*Plaintiffs,*

vs.

DEPARTMENT OF HOMELAND  
SECURITY, KEVIN MCALEENAN,  
KENNETH T. CUCCINELLI, AND UNITED  
STATES CITIZENSHIP AND  
IMMIGRATION SERVICES,

*Defendants.*

**DECLARATION OF ANDREW Y. WONG, PH.D. IN SUPPORT OF PLAINTIFFS’  
MOTION FOR PRELIMINARY INJUNCTION**

1. My name is Andrew Y. Wong.

2. A true and correct copy of my curriculum vitae appears in Appendix A. I received a Ph.D. in Finance from the University of Chicago. Over the past fifteen years, I have been an economic consultant specializing in applying economic and statistical techniques to analyze empirical economic questions in a variety of litigation settings including finance, microeconomics, and statistics. I have also been retained as an expert in multiple lawsuits and regulatory investigations.

3. In my work, I have used statistical databases, including those published by agencies such as the Bureau of Labor Statistics, to evaluate income and ability to pay. In these and other

1 matters, I have used statistical analysis and computations to assist in reaching conclusions. I am  
2 qualified and have served as an expert specializing in the application of economics and statistics to  
3 questions arising in a variety of contexts.

4 4. Counsel for Plaintiffs asked me to provide an analysis of certain questions  
5 concerning Revised Form I-912 and changes to the fee waiver process approved by Defendants on  
6 October 24, 2019 and publicly announced on October 25, 2019 (the “2019 Rule”).

7 5. Specifically, I was asked to analyze (i) the Federal Poverty Guidelines (“FPG”),  
8 including whether the FPG accurately measure an individual’s ability to pay the \$725 naturalization  
9 application fee; (ii) eligibility requirements for various mean-tested benefits; and (iii) the burden  
10 the 2019 Rule imposes on fee waiver applicants. My analysis and opinions on these topics are set  
11 forth below.

12  
13  
14 **I. The Federal Poverty Guidelines**

15 6. The regulations governing fee waivers for naturalization applications permit  
16 applicants to obtain a fee waiver if they demonstrate an “inability to pay” based on “the individual’s  
17 overall financial picture and household situation.” Applying for naturalization costs a substantial  
18 amount—\$725—and in 2017 almost 40% of naturalization applications were filed with a fee waiver  
19 request.<sup>1</sup>

20 7. Under the 2019 Rule, absent a naturalization applicant’s ability to show that he or  
21 she is experiencing an acute financial hardship, an applicant can *only* demonstrate an inability to  
22 pay if he or she is at or below 150% of the FPG.

23 8. The U.S. Department of Health and Human Services (HHS) sets the FPG each year,  
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26  
27 <sup>1</sup> United States Department of Homeland Security, Citizenship and Immigration Services  
Ombudsman, “Annual Report 2018,” June 28, 2018, p. 27.

1 which are used to determine an individual’s eligibility for various federal, state, and local programs.  
2 There are three sets of FPG: one for the 48 contiguous states and the District of Columbia, one for  
3 Alaska, and one for Hawaii.<sup>2</sup>

4 9. Aside from accounting for some of the various differences between Alaska, Hawaii,  
5 and the 48 contiguous states and the District of Columbia (as a single category), the FPG do not  
6 account for differences across geographies. Most importantly, the FPG do not account for  
7 variations in cost of living between states or cities within the 48 contiguous states and D.C., or  
8 between rural or urban communities within the same state.

10 10. Because cost of living can vary significantly between localities, an accurate measure  
11 of an individual’s ability to pay for certain expenditures must take cost of living into account.  
12 Indeed, financial measures that are similar to the FPG, but which account for variation in cost of  
13 living, show that an individual’s buying power varies widely depending on the state in which he or  
14 she lives. As one example, the Massachusetts Institute of Technology (MIT) maintains a “Living  
15 Wage Calculator,” which measures the income required to cover basic needs based on  
16 “geographically specific expenditure data related to a family’s likely minimum food, childcare,  
17 health insurance, housing, transportation, and other basic necessities” and may therefore be  
18 considered “a minimum subsistence wage for persons living in the United States.”<sup>3</sup> The table  
19 below, which uses 2018 data obtained from MIT, illustrates the wide range of minimum living  
20 wage estimates (presented as minimum annual incomes) in selected states.  
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23 <sup>2</sup> The poverty guidelines are not defined for Puerto Rico, the U.S. Virgin Islands, American  
24 Samoa, Guam, the Republic of the Marshall Islands, the Federated States of Micronesia, the  
25 Commonwealth of the Northern Mariana Islands, and Palau. *See* Office of the Assistant Secretary  
26 For Planning and Evaluation, “Poverty Guidelines: ASPE,” U.S. Department of Health & Human  
27 Services (2019), available at <https://aspe.hhs.gov/poverty-guidelines>.

27 <sup>3</sup> *See* Living Wage Calculator, “About the Living Wage Calculator,” MIT, available at  
28 <https://livingwage.mit.edu/pages/about>.

**2018 Minimum Living Wage Estimates<sup>4</sup>  
Pre-Tax Annual Income  
Selected States**

<b>Family Composition</b>	<b>2019 FPG</b>	<b>Washington</b>	<b>California</b>	<b>New York</b>	<b>Mississippi</b>
One Adult	\$12,490	\$27,659	\$30,392	\$31,388	\$22,973
One Adult, One Child	\$16,910	\$57,070	\$62,871	\$62,471	\$43,828
Two Adults (One Working), Two Children	\$25,750	\$57,476	\$63,805	\$60,105	\$50,433
Two Adults (Two Working), Two Children	\$25,750	\$72,673	\$81,056	\$88,056	\$54,933

11. The Federal Bureau of Labor Statistics (BLS) acknowledges this geographic variation in cost of living, and regularly publishes statistics on prices, cost of living, and income—such as the Consumer Price Index, Consumer Spending Data, and Wage Data—at the state and local level, in addition to the national level.<sup>5</sup> The Census Bureau similarly calculates a “Supplemental Poverty Measure” that takes into account geographic differences in the cost of housing.<sup>6</sup>

12. Congress has also acknowledged the relevance of geographic variation in cost of living. As part of the Affordable Care Act, Congress requested HHS to “conduct a study to examine the feasibility and implication of adjusting the application of the Federal poverty level . . . for different geographic areas so as to reflect the variations in cost-of-living among different areas

<sup>4</sup> Data obtained from the Living Wage Calculator, MIT, available at <https://livingwage.mit.edu/>.

<sup>5</sup> See BLS, “Overview of BLS Statistics by Geography,” available at <https://www.bls.gov/bls/geography.htm>.

<sup>6</sup> See United States Census Bureau, “Supplemental Poverty Measure: About,” available at <https://www.census.gov/topics/income-poverty/supplemental-poverty-measure/about.html>.

1 within the United States.”<sup>7</sup> This HHS study acknowledges that “considerable research documents  
2 substantial geographic differences in the cost of living across regions, states, and localities within  
3 states” and states that “[i]deally, an adjustment to the poverty guideline would reflect variation in  
4 cost of living faced by low-income families.”<sup>8</sup>

5  
6 13. By failing to account for variation in cost of living across geographic areas, which  
7 as illustrated above can be significant, the FPG fail to accurately measure a naturalization  
8 applicant’s ability to pay the \$725 application fee. Economists distinguish between “nominal”  
9 income, income measured in dollars, and “real” income, income measured by the ability to acquire  
10 goods and services.<sup>9</sup> By solely relying on the FPG to determine an individual’s inability to pay,  
11 the 2019 Rule would magnify, or at the very least maintain, inconsistencies in the *real* income  
12 levels being used to determine eligibility for a fee waiver—the very problem that the 2019 Rule  
13 purports to solve.<sup>10</sup>  
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18 <sup>7</sup> Public Law 111-148, Patient Protection and Affordable Care Act of 2010 (“Affordable  
19 Care Act”), Section 1416, “Study of Geographic Variation in Application of FPL”, available at  
<https://www.congress.gov/111/plaws/publ148/PLAW-111publ148.pdf>.

20 <sup>8</sup> Dubay, Lisa, Laura Wheaton, and Sheila Zedlewski, “Geographic Variation in the Cost of  
21 Living: Implications for the Poverty Guidelines and Program Eligibility,” June 2013, available at  
<https://aspe.hhs.gov/system/files/pdf/174186/UrbanGeographicVariation.pdf>, pp. 3, 9.

22 <sup>9</sup> See, e.g., Krugman, Paul and Robin Wells, *Economics*, Third Edition, Worth Publishers, p.  
23 283 (“[I]ncome adjusted to reflect its true purchasing power is often termed ‘real income,’ in  
24 contrast to ‘money income’ or ‘nominal income.’”); Federal Reserve Bank of Dallas, “Deflating  
Nominal Values to Real Values,” available at [https://www.dallasfed.org/—  
research/basics/nominal.aspx](https://www.dallasfed.org/research/basics/nominal.aspx).

25 <sup>10</sup> Federal Register, “Agency Information Collection Activities; Revision of a Currently  
26 Approved Collection: Request for Fee Waiver,” Notice by the U.S. Citizenship and Immigration  
27 Services, April 5, 2019, available at [https://www.federalregister.gov/documents/2019/04/05/2019-  
06657/agency-information-collection-activities-revision-of-a-currently-approved-collection-  
request-for-fee](https://www.federalregister.gov/documents/2019/04/05/2019-06657/agency-information-collection-activities-revision-of-a-currently-approved-collection-request-for-fee).

1       **II.    Means-Tested Benefits**

2           14.    Means-tested benefits are government benefits that are offered to individuals based  
3 in large part upon a showing of financial need—typically, a showing that their income or capital  
4 (i.e., their “means”) is at or below a specified threshold. For most federal and state means-tested  
5 benefit programs, the specified threshold is a function of the FPG.<sup>11</sup>

6  
7           15.    Under the current rule (the 2019 Rule becomes effective on December 2, 2019), an  
8 applicant can demonstrate an inability to pay by showing receipt of a “means-tested benefit.” The  
9 2019 Rule removes this possibility, and therefore renders ineligible for a fee waiver lawful  
10 permanent residents (LPRs) who receive a means-tested benefit but whose income is above 150%  
11 of the FPG.<sup>12</sup> I show below that states, with the permission of the federal government for federally-  
12 funded benefits, regularly set income thresholds for means-tested benefits that are above 150% of  
13 the FPG because those states have determined that eligible individuals at or below those income  
14 thresholds have demonstrated a financial need for the benefit.

15  
16           16.    One of the most widely-used means-tested benefit programs is Temporary  
17 Assistance for Needy Families (TANF). All 50 states participate in TANF, but each state sets its  
18 own eligibility criteria within broad federal guidelines, including by reference to the FPG. In 2018,  
19 30 states, including California, Illinois, New York, Washington, and Texas set TANF eligibility at  
20 a level that is *above* 150% of the FPG.

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22           17.    Another widely-used means-tested benefit program—Supplemental Nutrition  
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24       <sup>11</sup>    Robert Moffit, “A Review of U.S. Federal and State Means-Tested Programs,” 2018,  
25 available at  
<https://deepblue.lib.umich.edu/bitstream/handle/2027.42/142798/wp376.pdf?sequence=1>.

26       <sup>12</sup>    As mentioned above, the 2019 Rule still allows individuals to apply on the basis of financial  
27 hardship, but that requires “special circumstances” that many families and individuals do not face  
or are not facing at the particular time of submission.

1 Assistance Program (SNAP)—sets direct eligibility<sup>13</sup> at or below a certain percentage of the FPG,  
2 and “broad-based categorical eligibility” based on eligibility for other means-tested benefits,<sup>14</sup>  
3 which have income thresholds that typically vary depending on the state in which the applicant  
4 resides. The U.S. Department of Agriculture recognizes that the variability of this threshold (and  
5 of other SNAP regulations) is meant to enable state agencies “to meet the unique needs of states”  
6 and to “better target benefits to those most in need[.]”<sup>15</sup> As a result, 26 states have set categorical  
7 gross income eligibility thresholds above 150% of the FPG. Thus, the Federal Government  
8 acknowledges that circumstances vary across states and that state agencies require flexibility to  
9 better meet states’ needs, and these varying needs are met by variations in income thresholds used  
10 to determine eligibility.  
11

12 18. As in the above examples, in many cases an individual can be eligible for a means-  
13 tested benefit even with an income that is above 150% of the FPG. In fact, based on calculations  
14 using Current Population Survey data for 2018, out of all households that receive federal means-  
15 tested benefits, 31% have incomes that exceed 150% of the FPG.<sup>16</sup> As I show above with the  
16 discussion on SNAP, the federal government acknowledges that the states that grant these benefits  
17 are in the best position to identify those most in need.  
18

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21 <sup>13</sup> Households can be directly eligible for SNAP, or they can also qualify through “Broad-  
22 based categorical eligibility” if their income qualifies them for other programs targeted at needy  
23 families. Congressional Research Service, “The Supplemental Nutrition Assistance Program  
(SNAP): Categorical Eligibility” (updated January 4, 2019), available at  
<https://crsreports.congress.gov/product/pdf/R/R42054>.

24 <sup>14</sup> Congressional Research Service, “The Supplemental Nutrition Assistance Program  
25 (SNAP): Categorical Eligibility” (updated January 4, 2019), available at  
<https://crsreports.congress.gov/product/pdf/R/R42054>.

26 <sup>15</sup> See “State Options Report,” U.S. Department of Agriculture, Food and Nutrition Services,  
available at <https://www.fns.usda.gov/snap/waivers/state-options-report>.

27 <sup>16</sup> This figure includes households that receive SNAP, TANF, and WIC.

1           19. Under the 2019 Rule, individuals may have a very low income relative to their cost  
2 of living, and receive one or more means-tested benefits, including benefits meant for those  
3 individuals with the highest need—and yet will be ineligible for a fee waiver because they exceed  
4 150% of FPG.

5           20. Based on estimates from published sources, as many as 330,000 LPRs are eligible  
6 for naturalization, receive means-tested benefits, and have household incomes higher than 150% of  
7 the FPG, which would render them ineligible for a fee waiver under the 2019 Rule.<sup>17</sup> As a result,  
8 a significant number of LPRs will no longer be able to apply for a fee waiver.  
9

10       **III. The Burden Associated with the 2019 Rule**

11           21. Under the 2019 Rule, a naturalization applicant seeking a fee waiver on the ground  
12 that their household income is at or below 150% of the FPG must submit a tax transcript from the  
13 IRS to prove their income. This requirement will increase the burden on low-income naturalization  
14 applicants.  
15

16           22. Although an applicant can request a tax transcript online, low-income individuals  
17 disproportionately lack access to the internet. Almost 30% of adults in households with annual  
18 incomes between \$30,000 and \$49,999 are not home broadband internet users.<sup>18</sup> And even if an  
19 applicant *does* have the necessary internet access, online tax transcript applications have stringent  
20 requirements for identification, which may not be available to low-income families. Further,  
21 applicants who have no choice but to request a tax transcript through the mail can expect to wait,  
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23 <sup>17</sup> My analysis is based on the Current Population Survey and estimates of the LPR population  
24 as of 2015 from Baker, Bryan, “Population Estimates: Lawful Permanent Resident Population in  
25 the United States: January 2015,” Office of Immigration Statistics, Policy Directorate, U.S.  
26 Department of Homeland Security, May 2019, available at  
[https://www.dhs.gov/sites/default/files/publications/lpr\\_population\\_estimates\\_january\\_2015.pdf](https://www.dhs.gov/sites/default/files/publications/lpr_population_estimates_january_2015.pdf).

27 <sup>18</sup> See Pew Research Center, “Internet and Tech - Core Trends Survey,” October 21, 2019,  
28 available at <https://www.pewresearch.org/internet/datasets/>.



1 at best, five to ten calendar days before their application is processed, and four to six weeks if the  
2 applicant has changed addresses. Changes of address are more common among low-income  
3 individuals: while about 10% Americans moved between 2011 and 2012, 20% of those living in  
4 poverty moved during the same period.<sup>19</sup> Moreover, the mobility rate is particularly high for  
5 certain low-income families that receive TANF.<sup>20</sup>

7 23. Tax transcripts also do not accurately capture income levels for individuals who  
8 experience fluctuations in their income from year to year. For example, an individual's income for  
9 2019 might drop below 150% of the FPG, but his or her tax return for the preceding year might  
10 show an income above 150% of the FPG. Under the 2019 Rule, individuals with fluctuating  
11 incomes would need to wait until they have filed taxes for the year in which their income was at or  
12 below 150% of the FPG before they could request a tax transcript.

14 24. Further, the 2019 Rule will undoubtedly preclude some low-income naturalization  
15 applicants with a bona fide inability to pay the \$725 application from obtaining a fee waiver. An  
16 application fee of \$725 is often cost-prohibitive even to LPRs with incomes between 150% and  
17 250% of the FPG. In 2012, a Pew Hispanic survey found that 93% of participating LPRs would  
18 naturalize if possible, and 18% of respondents identified the naturalization fee as the primary reason  
19 for not applying for citizenship,<sup>21</sup> and research has established that application fees are a barrier to  
20 naturalization.<sup>22</sup>

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22  
23 <sup>19</sup> Phinney, Robin, "Exploring Residential Mobility among Low-Income Families," *Social Service Review*, Vol. 87, No. 4, December 2013, p. 782.

24 <sup>20</sup> *Id.*

25 <sup>21</sup> See Pew Research Center, "The Path Not Taken - Two-thirds of legal Mexican immigrants  
26 are not U.S. Citizens," Pew Research Center, February 4, 2013, available at  
<https://www.pewresearch.org/hispanic/2013/02/04/the-path-not-taken/>.

27 <sup>22</sup> Jens Hainmueller *et al.*, *A Randomized Controlled Design Reveals Barriers to Citizenship*  
28 *for Low-Income Immigrants*, 115 *Proceedings of the National Academy of Sciences* 939 (2018);  
Declaration of Andrew Y. Wong, Ph.D. in Support of Plaintiff's Motion for Preliminary Injunction  
Case No. 3:19-CV-07151

1           25.     According to published estimates, a family of four earning between 150% and 250%  
2 of the FPG would have to give up roughly one and a half weeks' wages to afford both parents'  
3 application fees.

4           26.     The burden of a \$725 fee on a low-income family is better understood by comparing  
5 it to a standard expense studied by the Federal Reserve: an unexpected expense of \$400. A 2019  
6 report by the Federal Reserve indicates that almost 30% of all American adults (across all income  
7 and wealth levels) would need to borrow or sell something to pay for an unexpected expense of  
8 \$400, while 12% would not be able to cover the expense at all.<sup>23</sup> In fact, 17% of American adults  
9 expected to forgo payment on some of their regular bills in the month in which they were surveyed,  
10 and another 12% would be unable to pay the current month's bills if faced with an unexpected  
11 expense of \$400.<sup>24</sup> These percentages are higher for people with lower levels of education.

12           27.     Finally, the 2019 Rule mandates that naturalization applicants use Revised Form I-  
13 912 to apply for a fee waiver. USCIS itself estimates that completing Revised Form I-912 will take  
14 over 2 hours, up from the 1.17 hours it took to complete the prior form.

15           28.     Other stakeholders indicate that the completion time may be even longer: the  
16 American Immigration Lawyers Association (AILA) estimates that completing Revised Form I-  
17 912 for a single LPR will take between 2.5 and 3 hours total, including the time for reviewing  
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22 \_\_\_\_\_  
23 Vasil Yasenova *et al.*, *Standardizing the Fee Waiver Application Increased Naturalization Rates*  
24 *of Low-Income Immigrants*, Immigration Policy Lab Working Paper Series, Working Paper No.  
25 19-06 (2019).

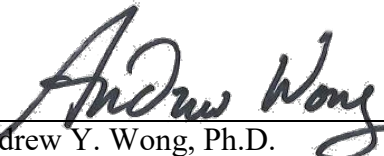
26 <sup>23</sup> See Federal Reserve, "2018 Report on the Economic Well-Being of U.S. Households" at 2,  
27 available at <https://www.federalreserve.gov/publications/files/2018-report-economic-well-being-us-households-201905.pdf> ("If faced with an unexpected expense of \$400 . . . 27 percent [of adults surveyed] would borrow or sell something to pay for the expense, and 12 percent would not be able to cover the expense at all.").

28 <sup>24</sup> See *id.*

Declaration of Andrew Y. Wong, Ph.D. in Support of Plaintiff's Motion for Preliminary Injunction  
Case No. 3:19-CV-07151

1 instructions, gathering the required documentation and information, completing the request,  
2 preparing statements, attaching necessary documentation, and submitting the request.<sup>25</sup>  
3  
4

5 Executed on November 6, 2019

  
6 Andrew Y. Wong, Ph.D.  
7 Managing Principal, Analysis Group

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26 <sup>25</sup> Public Comment Matrix I-912 at 36, available at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=56334401> (“AILA estimates that completing the revised  
27 and expanded form would take between 2.5 and 3 hours total[.]”).

# **APPENDIX A**

**ANDREW Y. WONG, PH.D.**

**Managing Principal**

Phone: 312 291 5612  
Fax: 312 291 5601  
andy.wong@analysisgroup.com

Two Prudential Plaza  
180 North Stetson Ave. Suite 2300  
Chicago, IL 60601

A specialist in finance and securities, Dr. Wong has managed teams supporting academic and industry affiliates in litigation matters involving securities fraud, damages, bankruptcy, suitability analysis, portfolio management, mortgage lending practices, accounting analysis, market manipulation, and financial statement analysis. He has extensive experience analyzing fixed-income instruments, structured finance instruments, and credit derivatives. Dr. Wong has worked on and provided testimony in government regulatory investigations. His recent engagements include work in legal disputes related to structured finance instruments, including residential mortgage-backed securities (RMBS) and collateralized debt obligations (CDOs); securities lending; mutual funds and other commingled investment pools; corporate governance; and investment suitability claims. He has also worked on valuation, class certification, and intellectual property matters.

Dr. Wong joined Analysis Group from Chicago Partners in 2006, and has played an instrumental role in the development and growth of the firm's Chicago practice. He is a member of the American Finance Association and has published research on bankruptcy and the financing of new firms. Dr. Wong is a board member of One Million Degrees, a Chicago-based nonprofit organization.

**EDUCATION**

Ph.D. Finance, The University of Chicago Graduate School of Business  
M.B.A. Finance, The University of Chicago Graduate School of Business  
B.S. Mathematics, The University of Chicago

**PROFESSIONAL EXPERIENCE**

Analysis Group, Inc.  
*Managing Principal*  
*Vice President*

Chicago Partners, LLC  
*Vice President*  
*Director*

**SELECTED CONSULTING EXPERIENCE**

- Managed case teams supporting multiple experts in areas including Section 10b-5 securities fraud, accounting, and financial statement analyses; supported expert witness in all aspects of expert report preparation and deposition testimony in a number of securities cases.

- On behalf of multiple financial institutions, led multiple case teams on investment suitability, breach of contract, and breach of fiduciary duty claims arising from the global financial crisis.
- Led case teams and supported expert testimony on structured finance topics including RMBS and CDOs.
- Managed analysis on repurchase agreements and collateral requirements around a failed SIV in securities lending related litigation.
- Managed analysis involving Section 10b-5, Section 11, and Section 12 securities damages claims.
- Led case teams and supported expert analysis on class certification matters, primarily relating to securities class actions.
- Explained the duties and responsibilities of the board of directors and audit committee of a large publicly traded corporation.
- Analyzed pension reporting compliance and materiality for a large industrial firm.
- Supervised case work on pension matter involving disclosure of pension actuarial assumptions.
- Supervised case work on securities matter involving trading activity of a hedge fund.
- Analyzed the market for and the pricing of credit default swaps in a large bankruptcy matter.
- Analyzed and described the liquidity and transparency of the corporate bond market.
- Investigated the value and transferability of commercial paper in a bankruptcy related matter.
- Examined and described the market for municipal bond trading and auctions.
- Calculated the reasonable royalty from a hypothetical negotiation involving telephony systems in the mutual fund industry.
- Calculated damages to pension plan from disclosure changes.
- Analyzed long-term income projections for firm in the forest products industries.
- Estimated the value of private corporations in a trust for a tax related matter.
- Performed statistical analysis to estimate the impact of marketing programs for a telecommunications firm.
- Projected the impact of a drug withdrawal and subsequent litigation on the value of a firm using event study methodology.
- Estimated damages in a breach-of-contract case using extensive database analysis for a large pharmaceutical company.
- Supervised analysis in the litigation of a securities claims against bank defendant in bankruptcy matter.
- Estimated lost profits for a generic drug in a breach-of-contract matter involving the pharmaceutical industry.
- Conducted valuation of a company in a fraudulent conveyance suit involving the automotive industry.
- Assessed the pricing and liquidity of municipal bonds in mutual funds in securities related litigation.
- Analyzed whether mutual fund portfolio managers invested in accordance with their prospectuses.

- Conducted several statistical tests of fund managers' behavior to investigate the validity of the SEC claims against a large asset management company.

#### **SELECTED EXPERT TESTIMONY**

***Abbott Laboratories v. ANDRX Pharmaceuticals***

*U.S. District Court, Northern District of Illinois, Eastern Division*

*Civil Action No. 05 C01490*

Expert declaration with Jonathan Arnold in May 2005.

***Confidential Expert Report in Wells Notice Action***

Submitted to NYSE Regulation

#### **SELECTED RESEARCH PAPERS**

“Forecasting Corporate Failure: Understanding Statistical and Theoretical Approaches to Bankruptcy Prediction,” with Konstantin A. Danilov, *AIRA Journal*, 29, 19-23 (2015)

“Angel Finance: The Other Venture Capital,” in Douglas Cumming, ed. *Venture Capital: Investment Strategies, Structures, and Policies* (2010)

“Angel finance: the other venture capital,” with Mihir Bhatia and Zachary Freeman, *Strategic Change*, 18, 221-230 (2009)

#### **PROFESSIONAL AFFILIATIONS**

American Finance Association

American Economic Association

#### **OTHER AFFILIATIONS**

One Million Degrees, *Board Member* and *Treasurer*