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**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SAN DIEGO DIVISION**

IN RE: BANK OF AMERICA
CALIFORNIA UNEMPLOYMENT
BENEFITS LITIGATION

Case No. 1-MD-02992-GPC-MSB

EXPERT REPORT OF PROFESSOR JUSTIN MCCRARY, PH.D.

April 4, 2025

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I. Qualifications

1. I am an economist with expertise in labor economics, antitrust, corporations, law and economics, economic modeling, and statistical methods, among other subjects. I hold an A.B. in Public Policy from Princeton University (1996) and a Ph.D. in Economics from the University of California, Berkeley (“Berkeley”) (2003). I currently hold the position of Paul J. Evanson Professor at the Law School at Columbia University (“Columbia”), and previously held academic positions at the University of Michigan (“Michigan”) (2003–2007) and Berkeley (2008–2018). Over the course of my academic career, I have taught courses on labor economics, antitrust, corporations, law and economics, and statistics to undergraduates, M.B.A., J.D., L.L.M., and Ph.D. students.

2. From September 2009 until July 2014, I co-directed the Law and Economics Program at Berkeley Law. From 2017 to 2019, I was a member of the Board of Directors of the American Law and Economics Association.

3. While at Berkeley, I served as the Founding Director of the Social Sciences Data Laboratory (“D-Lab”) from June 2014 to June 2017. At D-Lab, I lectured on and advised graduate students and faculty regarding high-performance computing, statistical software, and statistical techniques.

4. I have been a Faculty Research Associate of the National Bureau of Economic Research (“NBER”) since 2012. I was first asked to join the NBER in 2006 as a Faculty Research Fellow, and I co-directed the NBER Economics of Crime Working Group from 2008 to 2019. The NBER is the preeminent professional association of economists in the world, with over 1,800 economists worldwide.¹

5. My research spans a diverse range of topics, including labor economics, antitrust, econometric and statistical methodology, and other topics. I have published papers in leading journals within economics, such as the *American Economic Review*, the *Review of Economics and Statistics*, the *Journal of Economic Literature*, and the *Journal of Econometrics*. Over the years, my research has been supported by Michigan, Berkeley, Columbia, the MacArthur Foundation,

¹ “About the NBER,” *National Bureau of Economic Research*, 2025, available at <https://www.nber.org/about-nber>.

the NBER, the National Institutes of Health, the National Science Foundation, the Arnold Foundation, and the Robert Wood Johnson Foundation.

6. I regularly review articles for the leading peer-reviewed journals within economics, including *Econometrica*, the *American Economic Review*, the *Quarterly Journal of Economics*, the *Journal of Political Economy*, the *Review of Economic Studies*, the *Journal of Econometrics*, the *Review of Economics and Statistics*, and the *American Law and Economics Review*. Peer review specifically focuses on assessing whether submitted manuscripts are employing methodologies that are consistent with academic standards.

7. I am being compensated for my work on this matter at my standard hourly consulting rate of \$1,350. I have been assisted in this matter by staff of Cornerstone Research, who worked under my direction. I receive compensation from Cornerstone Research based on its collected staff billings for its support of me in this matter. Neither my compensation in this matter nor my compensation from Cornerstone Research is in any way contingent or based on the content of my opinion or the outcome of this or any other matter. A copy of my curriculum vitae including my previous testimony is included as Appendix A. A list of the materials I have relied upon in forming my opinions is included as Appendix B.

II. Assignment

8. I have been asked by counsel for Bank of America (“BANA”) to review and respond to the opinions in the Expert Reports of Dr. Chloe N. East, Dr. David L. Levine, and Mr. Greg J. Regan, to the extent he appears to rely on the credit card interest rates proposed by Dr. East and Dr. Levine to calculate damages.

9. The information and opinions set forth in this report are based upon the materials made available to me as of the report’s date. If additional materials are provided to me, I reserve the right to revise, supplement, or amend my analysis and opinions

III. Overview of Dr. Levine’s, Dr. East’s, and Mr. Regan’s Relevant Opinions

10. Dr. East and Dr. Levine opine that “[m]any Americans are heavily reliant on credit cards to make ends meet and Unemployment Insurance (“UI”) recipients are no exception,” and that

“most class members would have turned to credit card borrowing to cover their essential expenses in lieu of UI,” respectively.² They claim a credit card rate is an appropriate, and likely a minimum, estimate of the cost of that borrowing. Dr. Levine and Dr. East propose different rates for such an estimate.³ Dr. Levine “estimate[s] that class members paid an effective interest rate of at least 15.9%.”⁴ Dr. East “recommend[s] using a borrowing rate of 20.8% as an estimate of the cost to class members resulting from losing access to UI benefits, even temporarily.”⁵ Finally, Mr. Regan uses a 20% credit card interest rate in his calculation of the “time value of money” for “damages.”⁶

11. Dr. Levine argues the credit card interest rate is a “conservative measure of the average opportunity cost faced by members of the impacted classes” because proposed class members who could not access credit would turn to “high-cost borrowing options, such as payday loans or pawn shops...” or would be “forced to cut back on high-value spending...”⁷ Dr. East argues “the cost of borrowing on a credit card is likely an underestimate of the actual costs to cutting consumption,”⁸ as those with credit restrictions “turn to even more expensive forms of borrowing compared to credit cards, such as pawn shop loans or auto title loans.”⁹ Additionally, she argues “[o]ther households that are not able to turn to borrowing to finance their essential expenses may

² Expert Report of Chloe N. East, March 4, 2025 (“East Report”), ¶ 30; Expert Report of David I. Levine, March 4, 2025 (“Levine Report”), ¶ 34.

³ East Report, ¶¶ 10.f–e (“The average credit card interest rate is a conservative estimate of the costs faced by the class members who were denied access to their UI benefits” and “In my opinion, the average credit card interest rate of 20.8% is an appropriate figure to use to calculate the cost to class members resulting from denial of access to their principal claim amounts and frozen account balances.”); Levine Report, ¶¶ 12–13 (“It is my opinion that the credit card interest rate is an appropriate proxy to represent the class-wide harm suffered due to delays in receiving UI payments during COVID,” and “Because the alternative sources of funds available to most class members are higher cost than the cost of credit-card borrowing, in my opinion the credit card interest rate is a conservative measure of the opportunity cost of lost funds to the proposed class members.”).

⁴ Levine Report, ¶ 45. I note that Dr. Levine does acknowledge that “credit card rates vary” and claims to “arrive at this conclusion” of an effective interest rate “after estimating the effects of two known forces: First, people with lower credit on average pay higher credit card rates than those with higher credit scores, and those who were unemployed during COVID tended to have lower education, which predicts lower credit scores; and second, Californians have slightly higher credit scores than the rest of the nation.” Dr. Levine provides no support for the purported estimation and calculation that results in the 15.9% rate he proffers as “a conservative lower bound.” Dr. Levine also suggests that “the deep subprime effective interest rate on credit cards, 21%, is an extremely conservative measure of the cost faced by [i]ndividuals who cut back on essential expenses paid costs measured by late fees on unpaid bills, damage to housing opportunities and credit scores, and human hardship measured in skipped meals and foregone healthcare.” See Levine Report, ¶¶ 42–43.

⁵ East Report, ¶ 36.

⁶ Expert Report of Greg J. Regan, CPA/CFF, CFE, March 4, 2025 (“Regan Report”), ¶¶ 5, 44–45.

⁷ Levine Report, ¶¶ 40–41, 44.

⁸ East Report, ¶ 32.

⁹ East Report, ¶ 30.

be forced to cut back on necessities when they lose UI benefits.”¹⁰ These necessities include “food and medical care.”¹¹ Because of the cost of these alternatives, Dr. East opines the credit card borrowing rate is “an appropriate *minimum bound* for the costs of the class.”¹²

IV. Summary of Opinions

12. Dr. Levine’s and Dr. East’s opinions rely on academic research that studies UI benefits and how individuals respond to the permanent loss of those benefits. This body of literature is not applicable because proposed class members did not have their benefits “cut off” nor did their benefits “run out.”¹³ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].¹⁴ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].¹⁵ The correct issue, therefore, for Dr. Levine and Dr. East to analyze would have been how proposed class members would have handled the temporary loss of a discrete amount of funds in the context of the overall financial resources available to them at the time.

13. To understand the financial resources available to the proposed class members requires understanding Covid-19 pandemic-era expansions to UI benefits and other government and private support programs. The Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”)

¹⁰ East Report, ¶ 32.

¹¹ East Report, ¶ 32.

¹² East Report, ¶ 35.

¹³ East Report, ¶¶ 21, 24.

¹⁴

[REDACTED] See “Declaration of Connie K. Chan in Support of Plaintiffs’ Motion for Class Certification Ex. (‘PX’) 74, [REDACTED]

[REDACTED]” Bank of America, October 12, 2022, BANA EDD MDL-001 02554–77 (“PX 74,

[REDACTED] p. 9 (“[REDACTED]”).

¹⁵ PX 74, [REDACTED] p. 9, fn. 28 ([REDACTED])

(2020) and the Coronavirus Response and Consolidated Appropriations Act (2021) expanded eligibility, length of receipt, and amount of UI benefits.¹⁶ They also provided direct stimulus.¹⁷ Other federal, state, and privately-owned support programs offered financial assistance to homeowners and renters, student loan holders, the food insecure, and families. Together, these programs enhanced income and reduced expenses faced by many during the pandemic. The academic literature on which Dr. East and Dr. Levine rely does not fully account for the impact of these programs.

14. Much of the literature Dr. East and Dr. Levine cite analyzes the expiration of UI benefits, rather than a temporary loss of access to a portion of UI funds; studies different time periods pre-dating the pandemic; fails to capture the impact that pandemic support programs had on the financial wellbeing of UI recipients like the proposed class members; and ignores findings in studies of the pandemic period which point to increased spending, liquidity, and savings and reduced expenses and credit constraints among many UI recipients. As such, Dr. Levine’s and Dr. East’s conclusions that the proposed class members would have relied on credit card borrowing, or other more costly forms of borrowing or consumption reduction, are not supported.

15. Neither Dr. East nor Dr. Levine establish that proposed class members would have needed to borrow, using credit cards or through other sources, when faced with a temporary loss of access to a portion of their UI benefits. Of the nine class representatives, only [REDACTED]

[REDACTED]¹⁸ Similarly, of the 48 named plaintiffs who are proposed class members and who served written interrogatory responses, only [REDACTED].¹⁹

16. Nevertheless, Dr. East opines that “[t]he cost to UI recipients who lost access to their UI benefits is at least as high as the interest rates faced when borrowing on a credit card.”²⁰ Dr. East assumes, for UI recipients in 2020–2021, that the entirety of their income was allocated to spending and concludes, therefore, these recipients were “in a precarious financial situation.”²¹ I examine

¹⁶ “About the CARES Act and the Consolidated Appropriations Act,” U.S. Department of the Treasury, available at <https://home.treasury.gov/policy-issues/coronavirus/about-the-cares-act>.

¹⁷ “Assistance Programs for Workers during COVID-19: EDD Programs Webinar,” *State of California Employment Development Department*, May 1, 2020, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/Assistance-Programs-for-Workers-During-COVID-19.pdf.

¹⁸ This class representative [REDACTED] See Section VI.A.1.

¹⁹ See Section VI.A.1.

²⁰ East Report, ¶ 10.d.

²¹ East Report, ¶ 21.

the denied claim, rescinded credit, and account freeze amounts in relation to the expected savings from stimulus checks and in relation to implied monthly UI benefit amounts (incorporating the federal supplements). In total, [REDACTED] of proposed class members could have covered the entirety of their claim amounts using the estimated stimulus savings received prior to those claims dates for a single-person household, and the median member of the remaining [REDACTED] of proposed class members could have covered [REDACTED] of their total claim amount.²² The weighted average of the median combined fraud claim amounts totaled approximately [REDACTED] of the implied total monthly benefits in California during the pandemic. Together, stimulus savings, increased UI benefits amounts, and reduced expenditures, indicate many proposed class members likely had the resources to cover their claims amounts without resorting to credit card borrowing.

17. Dr. East’s and Dr. Levine’s claim that a 15.9%–20.8% credit card rate represents the opportunity cost of lost funds is unsupported and inflated.²³ Dr. East relies on survey data from the Survey of Household Economics and Decisionmaking (“SHED”), the Household Pulse Survey (“HPS”), and the Survey of Income and Program Participation (“SIPP”) to purportedly establish UI recipients nationwide (SHED, SIPP) or in California (HPS, SIPP) in 2020–2021 would have resorted to credit card borrowing to cover their claims. My analysis of these data indicates relatively smaller portions of respondents relying on interest-accruing credit card borrowing versus lower cost sources of funds, such as savings or borrowing from friends and family.²⁴ Thus the credit card borrowing rate, rather than being a conservative estimate of the cost of funds to replace delayed UI benefits, is likely an overestimate for many proposed class members.

18. Additionally, Dr. East uses SIPP data to analyze net liquid household wealth, a savings metric, which she relies on to opine UI recipients in California during the pandemic would have had to resort to credit card borrowing. By Dr. East’s calculation, 45% of UI recipients in California

²² Workpaper 1. [REDACTED] from the Regan Report, Schedule I. [REDACTED] If a proposed class member has multiple claims across different dates, I compare the total claim amount on a given date to the total estimated stimulus payments received prior to that date. Should that proposed class member have an additional claim at a later date, I compare that new claim amount to the sum of any remaining estimated stimulus savings from prior to the first claim and an additional stimulus savings from the interim between the claims. I assume proposed class members would have received their first stimulus check by September 28, 2020, their second stimulus check by January 1, 2021, and their third stimulus check by April 1, 2021.

²³ Mr. Regan uses 20% for the APR in the “calculation of the time value of money.” See Regan Report, ¶ 49.

²⁴ The SHED survey allows respondents to distinguish between putting the expense on a credit card and paying the balance in full at the payment due date, or paying the expense off over time.

who received pandemic stimulus payments had at least one month’s worth of income in net liquid household wealth.²⁵ Compared to my calculation of the median claim amount, which represented approximately [REDACTED] of average pandemic-level monthly UI benefit income in California, this suggests almost half of UI recipients had almost twice the necessary savings to cover the median claim amount. Furthermore, in her calculation, Dr. East underestimates net liquid household wealth by including the entirety of student debt in her calculation. This reduces her measure of savings, and in the context of the pandemic, overestimates the impact of student debt on household liquidity given the federal freeze of student loan payments. Therefore, Dr. East underestimates the financial resources of UI recipients in California in her analysis of net liquid household wealth. This further undermines her conclusion that the proposed class members would largely have needed to rely on credit card borrowing to fund spending if UI benefits were delayed.

V. Dr. East’s and Dr. Levine’s Opinions About the Financial Situation of “Typical UI Recipients” Fail to Support the Notion That Proposed Class Members Would Have Faced Similar Constraints

19. Both Dr. Levine and Dr. East cite to a body of literature that studies the impact of the absence or expiration of UI benefits on recipients. This literature is primarily conducted on the UI benefits program during normal times,²⁶ and does not account for the unusual period of time surrounding the Covid-19 pandemic and resulting increase in public support benefits, which the proposed class members received.²⁷ In response to the Covid-19 pandemic, the U.S. government passed two major pieces of legislation to “provide[] fast and direct economic assistance for American workers, families, small businesses, and industries”: the CARES Act (2020) and the Coronavirus Response and Consolidated Appropriations Act (2021). The CARES Act

²⁵ Dr. East calculates net liquid household wealth for the year following each UI recipient household’s latest stimulus check. See East Report Backup Materials, “01_c_SIPPAAnalysis.do”.

²⁶ By normal times, I refer to the period prior to the pandemic, which may have also included other stimulus and benefit expansions during previous recessions.

²⁷ The literature also does not account for the heightened number of UI benefit recipients who received UI benefits through fraud during that period. An estimated \$18.7 billion in fraudulent UI benefits were issued in California. In total, “[the Government Accountability Office] estimates that the amount of fraud in unemployment insurance (UI) programs during the COVID-19 pandemic was likely between \$100 billion and \$135 billion.” See “Pandemic Unemployment Insurance: How much has been paid to fraudsters?” *Pandemic Oversight*, January 22, 2025, available at <https://pandemicoversight.gov/spotlight/unemployment-insurance-fraud>; “Unemployment Insurance: Estimated Amount of Fraud During Pandemic Likely Between \$100 Billion and \$135 Billion,” *U.S. Government Accountability Office*, September 12, 2023, available at <https://www.gao.gov/products/gao-23-106696>.

“implemented a variety of programs to address issues related to the onset of the COVID-19 pandemic” and the Consolidated Appropriations Act “continued many of these programs by adding new phases, new allocations, and new guidance to address issues related to the continuation of the COVID-19 pandemic.”²⁸

20. In Section V.A, I describe the circumstances around the delay of access to a set portion of UI benefits experienced by the proposed classes and how these differ from Dr. East’s and Dr. Levine’s characterization. In Section V.B, I summarize the increases to the amount, duration, and reach of UI benefits as well the introduction of other new and expanded government support programs under these two Acts that improved the economic condition of many UI recipients, including many proposed class members. Then, in Section V.C, I discuss how academic literature that studies pandemic-era UI benefits and financial well-being, including one of the few studies on which Dr. East and Dr. Levine rely that covers Covid-19 pandemic UI benefits, undermines their conclusions on the financial status of the proposed class members.²⁹

A. The Temporary Loss of Certain UI Benefit Amounts Did Not Disrupt the Ongoing UI Benefits Income Stream Received by Proposed Class Members

21. Dr. East and Dr. Levine both opine on the importance of UI benefits and the consequences for recipients when UI benefits run out.³⁰ For example, Dr. Levine states that “UI benefits are used on essential expenses, and ... individuals face harm over time when their sources of funds for these expenses are abruptly cut off.”³¹ Dr. East describes how consumption can fall “when UI benefits run out.”³² She also concludes that “households receiving UI in this period could not rely on stimulus checks or other government transfers to cover their expenses *without UI benefits*.”³³ But

²⁸ “About the CARES Act and the Consolidated Appropriations Act,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/about-the-cares-act>.

²⁹ Ganong, Peter, et al., “Spending and Job-Finding Impacts of Expanded Unemployment Benefits: Evidence from Administrative Micro Data,” *American Economic Review* 114, no. 9, 2024, pp. 2898–2939 (“Ganong et al. (2024)”). Dr. Levine also considers “How Did COVID-19 Unemployment Insurance Benefits Impact Consumer Spending and Unemployment?” *Congressional Research Service*, June 24, 2022, available at <https://www.congress.gov/crs-product/IF12143>, which cites Ganong et al. (2024) indirectly.

³⁰ East Report, ¶ 24 (“All of this points to UI being a crucial source of income during unemployment that helps individuals pay for food, medical care, and other necessities.”).

³¹ Levine Report, ¶ 17.

³² East Report, ¶ 24.

³³ East Report, ¶ 23. Emphasis added.

delayed access to a portion of UI benefits for proposed class members is substantially different than what is analyzed in the literature Dr. Levine and Dr. East draw upon.³⁴

22. [REDACTED]

[REDACTED]”³⁵ [REDACTED]

[REDACTED] This is different than an individual whose UI benefits expire and can no longer anticipate an ongoing stream of UI income. The experience of proposed class members is more akin to facing an unexpected emergency expense. This distinction is important for several reasons.

23. First, the literature Dr. Levine and Dr. East rely upon, and draw conclusions from, does not contemplate the temporary loss of a portion of UI funds experienced by proposed class members. Second, the proposed class members, assuming they remained eligible, [REDACTED]

[REDACTED]³⁶ [REDACTED]³⁷ [REDACTED]

[REDACTED]³⁸ As a result, the increased and expanded UI benefits I discuss in Section V.B and elsewhere are directly relevant to the proposed class members as such a benefit expansion would have a bearing on the financial wellbeing of UI benefit recipients before, during, and after their claims.

³⁴ In the academic literature on unemployment benefits and household consumption smoothing, the replacement rate is typically defined as the proportion of a worker’s pre-unemployment earnings that is replaced by UI benefits during unemployment. *See e.g.*, Chetty, Raj, “Moral Hazard versus Liquidity and Optimal Unemployment Insurance,” *Journal of Political Economy*, 116, no. 2, 2008, pp. 173–234, p. 197. Other studies cited by Dr. Levine and Dr. East analyze differences in UI replacement rates across states. Permanent alterations in replacement rates differ substantially from the delayed access to a portion of UI benefits allegedly faced by proposed class members. *See* Gruber, Jonathan, “The Consumption Smoothing Benefits of Unemployment Insurance,” *American Economic Review* 87, no. 1, 1997, pp. 192–205, p. 192, available at <https://www.jstor.org/stable/pdf/2950862.pdf> (“Gruber (1997)”); East, Chloe N., and Elira Kuka, “Reexamining the Consumption Smoothing Benefits of Unemployment Insurance,” *Journal of Public Economics* 132, 2015, pp. 32–50 (“East and Kuka (2015)”).

³⁵ PX 74, [REDACTED] p. 9.

³⁶ [REDACTED]
³⁷ PX 74, [REDACTED], fn. 28.

³⁸ PX 74, [REDACTED], p. 9.

24. Therefore, the correct issue for Dr. Levine and Dr. East to analyze is how proposed class members would have handled the temporary loss of a discrete amount of funds in the context of the financial resources likely available to them at the time.

B. Dr. East and Dr. Levine Ignore That Proposed Class Members Benefited from Expanded Government Support During the Covid-19 Pandemic

1. UI Benefits Were Expanded, Extended and Increased During the Pandemic

25. With the passage of the CARES Act in 2020 and, subsequently, the Consolidated Appropriations Act in 2021, the U.S. government increased, expanded, and extended UI benefits. This resulted in millions of new recipients qualifying for UI who previously would not have been eligible, larger UI benefit amounts issued to recipients, and a longer period of UI benefit income. Each of these would have helped improve the financial resources available to recipients, like the proposed class members, during the pandemic.

26. Specifically, the two Acts established:

- a. The Pandemic Unemployment Assistance (“PUA”) program, which provided UI benefits to business owners, the self-employed, contract workers, and individuals who had not worked long enough to qualify for regular unemployment compensation.³⁹ PUA also provided benefits for recipients with regular UI claims who had exhausted their benefits.⁴⁰

³⁹ Prior to the Covid-19 pandemic, such individuals were not eligible for UI benefits. See “Assistance Programs for Workers during COVID-19: EDD Programs Webinar,” *State of California Employment Development Department*, May 1, 2020, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/Assistance-Programs-for-Workers-During-COVID-19.pdf (“The CARES Act provides additional UI benefits to claimants including: ... Pandemic Unemployment Assistance (PUA): Benefits for those who don’t usually qualify for regular UI benefits, such as business owners, the self-employed, and independent contractors.”); “Pandemic Unemployment Assistance,” *U.S. Department of Labor*, available at https://oui.doleta.gov/unemploy/pdf/PUA_FactSheet.pdf (“Covered by PUA: People not eligible for, or who have exhausted all rights to, regular unemployment compensation or extended benefits under state or federal law or Pandemic Emergency Unemployment Compensation (PEUC); Self-employed workers (including independent; contractors and gig workers); Workers seeking part-time employment; People who haven’t worked long enough to qualify for regular unemployment compensation.”).

⁴⁰ “Assistance Programs for Workers during COVID-19: EDD Programs Webinar,” *State of California Employment Development Department*, May 1, 2020, p. 6, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/Assistance-Programs-for-Workers-During-COVID-19.pdf (“Who is eligible for PUA benefits? ... Claimants with a regular UI claim who have exhausted their benefits.”); “Pandemic Unemployment Assistance,” *U.S. Department of Labor*, available at https://oui.doleta.gov/unemploy/pdf/PUA_FactSheet.pdf (“Covered by PUA: People not eligible for, or who have

- b. The Federal Pandemic Unemployment Compensation (“FPUC”), which supplemented “regular” state-level UI benefits.⁴¹ Under the CARES Act, FPUC initially provided for an additional \$600 per week in UI benefit supplements for up to four months (March 29, 2020 through July 31, 2020).⁴² Starting after December 26, 2020, these supplements were reinstated at a level of \$300 per week and were continued until September 6, 2021.⁴³
- c. The Pandemic Emergency Unemployment Compensation program (“PEUC”), a CARES Act program, which provided for UI benefit recipients to receive up to an additional 13 weeks of UI benefits for weeks of unemployment between March 29, 2020 and December 26, 2020.⁴⁴ This was later reinstated to provide for up to an additional 11 weeks of benefits for weeks of unemployment between December 27, 2020 and March 13, 2021 via the Continued Assistance Act, and up to an additional

exhausted all rights to, regular unemployment compensation or extended benefits under state or federal law or Pandemic Emergency Unemployment Compensation (PEUC).”).

⁴¹ “Assistance Programs for Workers during COVID-19: EDD Programs Webinar,” *State of California Employment Development Department*, May 1, 2020, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/Assistance-Programs-for-Workers-During-COVID-19.pdf (“The CARES Act provides additional UI benefits to claimants including: Federal Pandemic Unemployment Compensation (FPUC), also referred to as Pandemic Additional Compensation (PAC) by the EDD: Additional \$600 stimulus payment in addition to your weekly benefit amount.”).

⁴² “Unemployment Benefits in the COVID-19 Pandemic,” *Public Policy Institute of California*, April 9, 2020, available at <https://www.ppic.org/blog/unemployment-benefits-in-the-covid-19-pandemic/> (“The CARES Act provides \$600 per week on top of typical benefits for up to four months.”); “U.S. Department of Labor Announces New Guidance to States on Unemployment Insurance Programs,” *U.S. Department of Labor*, December 30, 2020, available at <https://www.dol.gov/newsroom/releases/eta/eta20201230-1> (“Additionally, the Federal Pandemic Unemployment Compensation program (FPUC), which expired July 31, 2020, is reauthorized and modified to provide \$300 per week to supplement benefits for weeks of unemployment beginning after December 26, 2020.”); “Assistance Programs for Workers during COVID-19: EDD Programs Webinar,” *State of California Employment Development Department*, May 1, 2020, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/Assistance-Programs-for-Workers-During-COVID-19.pdf (“Pandemic Additional Compensation: Available from March 29, 2020, through July 25, 2020.”).

⁴³ Spadafora, Francesco, “U.S. Unemployment insurance through the Covid-19 crisis,” *Journal of Government and Economics* 9, 2023, 100069 (“Spadafora (2023)”) (“The FPUC applicability gap lasted until December 26, when it was re-established by the December 2020 [Continued Assistance Act] and extended through March 14, 2021, with a reduced supplement of \$300. The March 2021 ARPA further extended this \$300 supplement through September 6, 2021.”).

⁴⁴ “Assistance Programs for Workers during COVID-19: EDD Programs Webinar,” *State of California Employment Development Department*, May 1, 2020, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/Assistance-Programs-for-Workers-During-COVID-19.pdf (“Pandemic Emergency Unemployment Compensation: ... Provides an additional 13 weeks of extended benefits.; Available from March 29, 2020, through December 26, 2020.”).

29 potential weeks of benefits for weeks of unemployment between March 14 and September 4, 2021 via the American Rescue Plan Act (“ARP”).⁴⁵

27. Alongside this expansion, and given the high unemployment rate, traditional safeguards meant to ensure that recipients were, in fact, eligible were not applied to federal UI benefits expansions in an effort to quickly provide UI benefits to recipients.⁴⁶ For example, under PUA, claimants were able to self-certify their eligibility for benefits, which contributed to an expansion of UI recipients.⁴⁷ The lowering of these safeguards caused the Department of Labor’s Employment and Training Administration to estimate “the PUA program had a total improper payment rate of 35.9 percent,” more than triple the pre-pandemic levels of improper payment.⁴⁸

28. However, increased unemployment, and the introduction of PUA, led to greater UI coverage amongst unemployed and underemployed workers.⁴⁹ California saw over 2,000% *increases* in weekly unemployment claims processing relative to 2019.⁵⁰ FPUC supplemental benefits, of \$300 and \$600, represented a 750% and 1,500% increase respectively for California’s

⁴⁵ “Federal Unemployment Benefits Available During COVID-19 Pandemic,” *State of California Employment Development Department*, August 2021, available at <https://edd.ca.gov/siteassets/files/unemployment/pdf/unemployment-benefits-chart.pdf>.

⁴⁶ “EDD’s Response to Fraud,” *State of California Employment Development Department*, available at https://edd.ca.gov/en/about_edd/fraud-response/ (“During the COVID-19 pandemic, we experienced an unprecedented surge of fraud attempts, particularly in new, federal pandemic benefit programs, which lacked traditional safeguards in an effort to get benefits to workers who needed them.”); “Key Insights: State Pandemic Unemployment Insurance Programs,” *Pandemic Response Accountability Committee*, December 16, 2021, available at <https://www.pandemicoversight.gov/media/file/state-unemployment-insurance-capping-report> (“[T]he PUA program did not include the typical verifications required for regular unemployment benefits.”).

⁴⁷ “PUA Improper Rate Report,” U.S. Department of Labor, August 21, 2023, available at https://oui.doleta.gov/unemploy/pdf/Pandemic_Unemployment_Assistance_Improper_Payment_Rate_Report.pdf (“Throughout the first nine months of the program in 2020, PUA allowed for payments to be made based on self-certification of information without any substantiation of employment or self-employment and without a requirement for individuals to verify their identity.”).

⁴⁸ “PUA Improper Rate Report,” U.S. Department of Labor, August 21, 2023, available at https://oui.doleta.gov/unemploy/pdf/Pandemic_Unemployment_Assistance_Improper_Payment_Rate_Report.pdf; “Key Insights: State Pandemic Unemployment Insurance Programs,” *Pandemic Response Accountability Committee*, December 16, 2021, available at <https://www.pandemicoversight.gov/media/file/state-unemployment-insurance-capping-report> (“Previous work completed by [Department of Labor Office of Inspector General] identified that UI programs generally have an improper payment rate of at least 10 percent.”).

⁴⁹ Prior to the start of the pandemic, less than a third of unemployed workers collected UI benefits. During the pandemic, this coverage rate increased to 70–75 percent. See Spadafora (2023) (“The federal “pandemic” programs brought about an unprecedented expansion of UI coverage: since November 2020, PUA and PEUC covered around 70–75 percent of total unemployed workers receiving UI benefits.”).

⁵⁰ “Governor Newsom Announces Additional Unemployment Benefits for Workers Impacted by COVID-19, as Unemployment Claims Reach Record Levels,” *Cal OES News*, April 9, 2020, available at <https://news.caloes.ca.gov/governor-newsom-announces-additional-unemployment-benefits-for-workers-impacted-by-covid-19-as-unemployment-claims-reach-record-levels/> (“Just for the week ending on Saturday, April 4, 2020, the California Employment Development Department (EDD) processed 925,450 claims, which is a 2,418% increase over the same week last year.”).

minimum weekly unemployment benefits recipients and a 67% and 133% increase for California’s maximum weekly unemployment benefits recipients.⁵¹ PEUC, in aggregate, provided for a maximum of up to 53 weeks of unemployment benefits, more than double California’s pre-pandemic maximum of 26 weeks of payments.⁵²

29. As a result of these programs, the UI recipient population incorporated new types of individuals (such as business owners) who could have increased financial resources compared to the typical benefit recipients. UI recipients, like the proposed class members, also had a larger, stable weekly income stream for a longer period. These supplemental UI benefits programs covered the majority of the proposed class periods.⁵³ Further, I understand [REDACTED]

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These changes to their UI benefits would have helped many avoid resorting to their savings or reducing consumption after losing their jobs (or receiving UI) and, in fact, improved the financial conditions of many recipients.

⁵¹ “Unemployment Eligibility Requirements,” *State of California Employment Development Department*, available at <https://edd.ca.gov/en/unemployment/eligibility/>. In California, the minimum weekly state-level UI benefits amount during the pandemic was \$40 and the maximum was \$450. I calculate the percentages listed above as follows: $\$300 / \$40 = 750\%$, $\$750 / \$40 = 1,500\%$, $\$300 / \$450 = 66.7\%$, $\$600 / \$450 = 133.3\%$. During this period, UI benefits as a ratio of employees’ wages reached a peak of 15% in June of 2020. As a comparison, the ratio of UI benefits to employees’ wages peaked at 2.6% during the expanded unemployment insurance enacted during the Great Recession. In California, UI benefits represented 20.4% of all taxable wages in 2020. *See Spadafora (2023)*; “October 2021 Unemployment Insurance (UI) Fund Forecast,” *State of California Employment Development Department*, available at https://edd.ca.gov/siteassets/files/about_edd/pdf/edduiforecastoct21.pdf (“[D]ata from the Bureau of Economic Analyst show that UI benefits as a ratio of employees’ wages and salaries reached a peak of 2.6 percent in January 2010. ... [D]uring the Covid-19 pandemic, the above-mentioned ratio peaked at over 15 percent in June 2020.”).

⁵² “Federal Unemployment Benefits Available During COVID-19 Pandemic,” *State of California Employment Development Department*, August 2021, available at <https://edd.ca.gov/siteassets/files/unemployment/pdf/unemployment-benefits-chart.pdf>; “California Unemployment Benefit Programs,” *State of California Employment Development Department*, August 2021, available at <https://edd.ca.gov/siteassets/files/unemployment/pdf/benefit-flowchart.pdf> (“When you run out of available weeks of benefits, you might be eligible for to up 53 weeks under the Pandemic Emergency Unemployment Compensation (PEUC) program.”); “California Unemployment Benefits Extension – CARES Act,” *PARRIS Law Firm*, available at <https://parris.com/news/employment-law/california-unemployment-extension-or-cares-act> (“Normally, California unemployment insurance benefits provide up to 26 weeks of payments.”).

⁵³ With the exception of the period between July 31, 2020 and December 26, 2020, when the initial supplements had expired and the reduced level supplements had not yet been reinstated.

⁵⁴ PX 74, [REDACTED], pp. 8–9 [REDACTED].”).

2. Contemporaneous Government Stimulus Payments Were Also Made to Many Americans During the Pandemic

30. The government not only increased UI benefits during the pandemic, but it also provided additional direct payments through “stimulus checks.” Three stimulus checks were provided directly to many Americans in April 2020, January 2021, and March 2021 under the CARES Act, the COVID-related Tax Relief Act of 2020, and ARP, respectively.⁵⁵

31. In March 2020, the CARES Act provided stimulus checks of \$1,200 per adult and \$500 per qualifying child under the age of 17.⁵⁶ This \$1,200 amount represents nearly an additional month of UI benefits for the average recipient in the year prior to the start of the pandemic in California, before accounting for any additional stimulus for households with children or multiple adults.⁵⁷ These stimulus payments were reduced for individuals earning over \$75,000 and \$150,000 as a household (based on 2018 or 2019 tax returns),⁵⁸ however, those households earning above these thresholds prior to the pandemic were more likely to have accumulated financial resources with which they could avoid credit card borrowing to cover a temporary reduction in UI benefit income.⁵⁹

32. As noted above, the government also provided additional stimulus payments in January 2021 through the COVID-related Tax Relief Act of 2020 (enacted in late December 2020) and the

⁵⁵ “How Are Federal Economic Impact Payments to Support Individuals During the COVID-19 Pandemic Recorded in the NIPAs?” *U.S. Bureau of Economic Analysis*, available at <https://www.bea.gov/help/faq/1409>.

⁵⁶ “Economic Impact Payments,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-american-families-and-workers/economic-impact-payments> (“Starting in March 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) provided Economic Impact Payments of up to \$1,200 per adult for eligible individuals and \$500 per qualifying child under age 17.”).

⁵⁷ “Quick Statistics,” *State of California Employment Development Department*, available at https://edd.ca.gov/en/About_EDD/Quick_Statistics. In March 2019, the average weekly UI benefit in California was \$331.02, which amounts to an implied monthly benefit of $\$331.02 \times 4 = \$1,324.08$ or 10% more than the first round of individual stimulus payments.

⁵⁸ The March 2020 stimulus payments were issued based on “[t]ax returns for 2019 or 2018,” thus income in 2019 or 2018 determined eligibility. See “How Are Federal Economic Impact Payments to Support Individuals During the COVID-19 Pandemic Recorded in the NIPAs?” *U.S. Bureau of Economic Analysis*, April 29, 2021, available at <https://www.bea.gov/help/faq/1409>. The median household income in California in 2018 was \$70,490 and in 2019 was \$78,100. See “Release Tables: Median Household Income by State, Annual,” *Federal Reserve Bank of St. Louis Economic Data*, 2019, available at <https://fred.stlouisfed.org/release/tables?rid=249&eid=259462&od=2019-01-01#>. Further, based on the SIPP data analyzed by Dr. East, 82% of California UI recipient households earned less than \$75,000 in personal income in both 2018 and 2019 and 86% and 84% of California UI recipient households earned less than \$150,000 in 2018 and 2019, respectively. See Workpaper 2.

⁵⁹ See, e.g., Abdelrahman, Hamza, and Luiz E. Oliveira, “The rise and fall of pandemic excess savings,” *FRBSF Economic Letter* 11, 2023, available at <https://www.frbsf.org/research-and-insights/publications/economic-letter/2023/05/rise-and-fall-of-pandemic-excess-savings/>.

ARP (enacted in early March 2021). The COVID-related Tax Relief Act of 2020, enacted in late December 2020, provided an additional \$600 per eligible individuals and up to \$600 for qualifying children under the age of seventeen.⁶⁰ ARP provided payments of up to \$1,400 per eligible individuals and \$2,800 for married couples filing jointly, plus \$1,400 for each qualifying dependent.⁶¹ The COVID-related Tax Relief Act of 2020 and the ARP stimulus payment packages for an individual adult represented nearly two weeks’ worth and over a month’s worth of the average California UI recipient’s weekly benefit prior to the pandemic, respectively.⁶²

33. California, through its Golden State Stimulus program, separately offered two rounds of stimulus payments for low-income individuals that would have provided a further boost in income to many UI recipients, and potentially some of the proposed class members.⁶³ In the first round, 4.6 million payments of \$2.8 billion were issued to “low and middle income Californians,”⁶⁴ of which 2.5 million payments for a total \$1.6 billion had been issued by early May 2021.⁶⁵ Taxpayers qualified for either \$600 or \$1,200 payments. The second round included 8.3 million payments totaling \$6 billion to taxpayers that were not eligible for the first round of stimulus, including either \$600 or \$1,000 payments as well as an additional \$500 payment for qualified

⁶⁰ “Economic Impact Payments,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-american-families-and-workers/economic-impact-payments> (“The COVID-related Tax Relief Act of 2020, enacted in late December 2020, authorized additional payments of up to \$600 per adult for eligible individuals and up to \$600 for each qualifying child under age 17.”).

⁶¹ “Economic Impact Payments,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-american-families-and-workers/economic-impact-payments> (“The American Rescue Plan Act of 2021 (American Rescue Plan), enacted in early March 2021, provided Economic Impact Payments of up to \$1,400 for eligible individuals or \$2,800 for married couples filing jointly, plus \$1,400 for each qualifying dependent, including adult dependents.”).

⁶² “Quick Statistics,” *State of California Employment Development Department*, available at https://edd.ca.gov/en/About_EDD/Quick_Statistics. In March 2019, the average weekly UI benefit in California was \$331.02, which amounts to an implied monthly benefit of $\$331.02 \times 52 / 12 = \$1,434.42$. The \$600 stimulus check amounts to almost half of the implied monthly benefit, and the \$1,400 stimulus check is approximately equivalent to one month of the implied monthly benefit.

⁶³ Low-income workers who qualified included those that “made up to \$30,000” in 2020, undocumented workers making less than \$75,000 qualified for between \$600 and \$1,200 depending on income, and CalWORKS recipients (“a welfare program that gives cash aid and services to eligible California families in need”) also received a \$600 grant. See “Expanded Golden State Stimulus, the Largest State Tax Rebate in American History, to Start Reaching Californians Tomorrow,” *Governor of California*, available at <https://www.gov.ca.gov/2021/08/26/expanded-golden-state-stimulus-the-largest-state-tax-rebate-in-american-history-to-start-reaching-californians-tomorrow/>; “California Work Opportunity and Responsibility to Kids (CalWORKS),” *California Department of Social Services*, available at <https://www.cdss.ca.gov/calworks>.

⁶⁴ “Golden State Stimulus,” *State of California Franchise Tax Board*, available at <https://www.ftb.ca.gov/about-ftb/newsroom/golden-state-stimulus/index.html>.

⁶⁵ “State Issues 2.5 Million Golden State Stimulus Payments,” *State of California Franchise Tax Board*, May 6, 2021, available at <https://www.ftb.ca.gov/about-ftb/newsroom/news-releases/2021-06-state-issues-golden-state-stimulus-payments.html>.

families with one or more dependents (providing payments for dependents to first round recipients as well).⁶⁶

34. In total, the three federal government stimulus packages totaled nearly 10 weeks’ worth of the average pre-pandemic UI benefits in California for individuals in financial situations similar to those in the proposed class.⁶⁷ For unemployed individuals with two qualified children this number increased to nearly 25 weeks of average UI benefits.⁶⁸ The additional \$600 Golden State Stimulus amounts, for which proposed class members may have been eligible, represents an additional almost two weeks of stimulus payments to lower income Californians with no dependents.⁶⁹

3. Federal Government and Private Programs were Developed or Expanded During the Pandemic to Provide Additional Support

35. In addition to the federal government’s UI benefit expansion and direct stimulus payments, many other federal and privately-owned support programs expanded during the pandemic. Assistance programs provided financial support to homeowners and renters, student loan holders, the food insecure, and families, among other groups. These programs primarily helped reduce the burden of necessary spending for the unemployed. Proposed class members, therefore, were less likely to need to resort to credit card borrowing when faced with the denied claim, rescinded credit, and/or frozen account balances because they could have (or already had) attained forbearance on many regular payment obligations.

36. The CARES Act entitled borrowers to an initial forbearance of their monthly mortgage payments for up to 180 days, and this forbearance was eligible for extension upon request for an additional 180 days.⁷⁰ Effectively, this temporarily halted the need to make mortgage payments.

⁶⁶ “Expanded Golden State Stimulus, the Largest State Tax Rebate in American History, to Start Reaching Californians Tomorrow,” *Governor of California*, available at <https://www.gov.ca.gov/2021/08/26/expanded-golden-state-stimulus-the-largest-state-tax-rebate-in-american-history-to-start-reaching-californians-tomorrow/>; Jackie Botts, “Who Gets a Golden State Stimulus Check? When?” *CalMatters*, May 24, 2023, available at <https://calmatters.org/california-divide/2021/02/california-golden-state-stimulus-600-check/>.

⁶⁷ $(\$1,200 + \$600 + \$1,400) / (\$331.02 \text{ per week}) = 9.7 \text{ weeks of UI benefits.}$

⁶⁸ $(\$1,200 + \$500 \times 2 + \$600 \times 3 + \$1,400 \times 3) / (\$331.02 \text{ per week}) = 24.8 \text{ weeks of UI benefits.}$

⁶⁹ $\$600 / \$331.02 \text{ per week} = 1.8 \text{ weeks of UI benefits.}$

⁷⁰ “CARES Act Forbearance Fact Sheet for Mortgagees and Servicers of FHA, VA, or USDA Loans,” *U.S. Department of Agriculture Rural Department*, available at https://www.rd.usda.gov/sites/default/files/Interagency_COVID19_Housing_Forbearance_FS_Lenders.pdf (“Under

In fact, “[t]he average cumulative payments missed by individuals in forbearance [between March 2020 and May 2021] were largest for mortgage (\$4,254).”⁷¹ Estimates of the impact of government forbearance programs and fiscal stimulus indicate these programs prevented “about 1.5 to 2.5 million (at its peak)” mortgage defaults in aggregate during the pandemic.⁷² The Treasury’s Emergency Rental Assistance programs provided “\$46 billion to support housing stability for eligible renters throughout the COVID-19 pandemic” through two rounds of funding.⁷³ Of this, approximately \$2.6 billion and \$2.1 billion were allocated directly to the state of California or local governments in California in each round respectively.⁷⁴ Congress also enacted a federal eviction moratorium from September 4, 2020 through July 31, 2021.⁷⁵ California had a statewide moratorium on evictions lasting from March 2020 through June 2022.⁷⁶ The expansion of these housing support programs provided direct financial aid or additional financial reprieve to many unemployed workers, including the proposed class members.

the CARES Act, borrowers are entitled to request an initial forbearance of their monthly mortgage payments for up to 180 days and may request up to an additional 180 days.”).

⁷¹ Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141–199, p. 142, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf (“The average cumulative payments missed by individuals in forbearance during this period were largest for mortgage (\$4,254) and auto (\$398) debt.”).

⁷² Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141–199, pp. 143, 162, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf (“The actual [mortgage] default rate averaged below 2 percent instead of a predicted 6.8 percent at its peak, amounting to about 1.5 to 2.5 million missing defaults in the aggregate.”).

⁷³ “Emergency Rental Assistance Program,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/emergency-rental-assistance-program>.

⁷⁴ “U.S. Department of the Treasury Emergency Rental Assistance Program Payments to States and Eligible Units of Local Government,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/system/files/136/Emergency-Rental-Assistance-Payments-to-States-and-Eligible-Units-of-Local-Government.pdf>; “U.S. Department of the Treasury Emergency Rental Assistance Program Allocations to States and Eligible Units of Local Government,” *U.S. Department of the Treasury*, available at https://home.treasury.gov/system/files/136/ERA2_Allocations_Eligible_Entities_572021.pdf; “Emergency Rental Assistance Program: Allocations and Payments,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/emergency-rental-assistance-program/allocations-and-payments>.

⁷⁵ David H. Carpenter, Maggie McCarty, and Libby Perl, “The CDC’s Federal Eviction Moratorium,” *Congressional Research Service*, August 31, 2021, available at <https://www.congress.gov/crs-product/IN11673> (“The CDC originally imposed a nationwide, temporary federal moratorium on residential evictions for nonpayment of rent on September 4, 2020 (“initial order”). The CDC extended the initial order several times, until it expired on July 31, 2021.”).

⁷⁶ Jeanne Kuang, “Across California, Eviction Cases Have Returned To — Or Surpassed — Pre-pandemic Levels,” *CalMatters*, November 21, 2023, available at <https://calmatters.org/housing/homelessness/2023/11/california-evictions-post-pandemic/>; “Executive Order N-28-20,” *Executive Department State of California*, March 4, 2020, available at <https://www.gov.ca.gov/wp-content/uploads/2020/03/3.16.20-Executive-Order.pdf>.

37. California also enacted other statewide moratoria on disconnections of essential services for nonpayment and waiving fees for late payments for those services. Namely, California’s moratoria applied to electric, gas, and internet services.⁷⁷ The suspension of payments, as well as the removal of late fees for associated late payments, provided direct financial relief to Californians, including UI recipients.⁷⁸

38. The government also provided relief on federally owned student loans. Federally owned student loans account for over 90% of outstanding student loan debt.⁷⁹ This relief included forbearance on Education Department-held student loans from March 13, 2020 through August 31, 2023, and during this period, loan payments on Education Department-held student debt were not required and interest accrual was halted.⁸⁰ These Education Department-held student loans accounted for 88% of federally owned student loan debt during the pandemic, the vast majority of student loan debt nationally.⁸¹ These loan payment pauses provided an estimated \$195 billion in financial relief.⁸² Absent government support programs and student loan payment freezes and given the unemployment rate, the nationwide delinquency rate by the end of 2020 was predicted

⁷⁷ “Emergency Authorization And Order Directing Utilities To Implement Emergency Customer Protections To Support California Customers During The Covid-19 Pandemic,” *Public Utilities Commission Of The State Of California*, April 17, 2020, available at <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/press-releases/final-resolution-m-4842.pdf> (“This Resolution ratifies directions provided by the Commission’s Executive Director on March 17, 2020 to energy, water and communications corporations to retroactively apply customer protection measures from March 4, 2020 onward – during the pendency of the COVID-19 pandemic. Specifically, this Resolution orders electric, gas, communications, and water and sewer corporations in California to file ... describing all reasonable and necessary actions to implement the Emergency Customer Protections contained in this resolution”).

⁷⁸ “Average Monthly Electricity Bill for U.S. Residential Customers Declined in 2019,” *U.S. Energy Information Administration*, December 15, 2020, available at <https://www.eia.gov/todayinenergy/detail.php?id=46276>.

⁷⁹ “(GENERAL-21-88) Federal Student Aid Posts Quarterly Portfolio Reports to FSA Data Center,” *Federal Student Aid*, December 22, 2021, available at <https://fsapartners.ed.gov/knowledge-center/library/electronic-announcements/2021-12-22/federal-student-aid-posts-quarterly-portfolio-reports-fsa-data-center>; Melanie Hanson, “Student Loan Debt Statistics,” *Education Data Initiative*, March 16, 2025, available at <https://educationdata.org/student-loan-debt-statistics>.

⁸⁰ Alexandra Hegji, “Federal Student Loan Debt Relief in the Context of COVID-19,” *Congressional Research Services*, October 15, 2024, available at <https://www.congress.gov/crs-product/R46314> (“Hegji (2024)”).

⁸¹ Hegji (2024).

⁸² Sarah Turner, “Student Loan Pause Has Benefitted Affluent Borrowers the Most, Others May Struggle When Payments Resume,” *The Brookings Institution*, April 13, 2023, available at <https://www.brookings.edu/articles/student-loan-pause-has-benefitted-affluent-borrowers-the-most-others-may-struggle-when-payments-resume/>.

to approach 6%.⁸³ Instead, student loan delinquency rates were effectively reduced to zero.⁸⁴ This federal student loan relief is another aspect of pandemic era government assistance that would have lowered ongoing expenses to numerous California UI recipients.

39. Not only did the Education Department offer forbearance on Education Department-held loans, but it also authorized Family Federal Education Loan providers and institutions that held Perkins loans to offer forbearance on a voluntary basis from March 13, 2020 through August 31, 2023. Family Federal Education Loans and Perkins loans made up the remainder of federally owned student loans.⁸⁵ Forbearance rates among Family Federal Education Loan providers rose to 36 percent in June 2020 (compared to 26 percent in February 2020).⁸⁶ California was also part of a multistate coalition that negotiated a relief agreement with more than a dozen lenders and loan servicers that resulted in these lenders and servicers offering at least 90 days of forbearance to borrowers, waiving late payment fees, stopping debt collection lawsuits for 90 days, and helping enroll borrowers in other assistance programs.⁸⁷

40. The government also increased and expanded other traditional familial income relief programs. The Supplemental Nutrition Assistance Program (“SNAP”) implemented an increase

⁸³ Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141–199, Online Appendix, Figure A 5, p. 73, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf.

⁸⁴ Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141–199, Online Appendix, Figure A 5, p. 73, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf.

⁸⁵ “FFEL program loans may be held by private lenders, guaranty agencies (GAs), or ED. As of June 30, 2023, they comprised of 12% of outstanding student loan debt. Perkins Loan program loans may be held by institutions of higher education (IHEs) that made the loans or by ED. As of June 30, 2023, they comprised less than 1% of outstanding federal student loan debt.” See Hegji (2024).

⁸⁶ Jacob Goss, Daniel Mangrum, and Joelle Scally, “Student Loan Repayment during the Pandemic Forbearance,” *Liberty Street Economics*, available at <https://libertystreeteconomics.newyorkfed.org/2022/03/student-loan-repayment-during-the-pandemic-forbearance/>; Kim Porter, “Do Private Student Loans Qualify for Coronavirus Relief?” *U.S. News & World Report*, available at <https://money.usnews.com/loans/student-loans/articles/do-private-student-loans-qualify-for-coronavirus-relief>; Adam S. Minsky, “Millions Covered By Multi-State Agreement To Stop Private Student Loan Payments,” *Forbes*, available at <https://www.forbes.com/sites/adamminsky/2020/05/04/millions-covered-by-multi-state-agreement-to-stop-private-student-loan-payments>.

⁸⁷ Kim Porter, “Do Private Student Loans Qualify for Coronavirus Relief?” *U.S. News & World Report*, available at <https://money.usnews.com/loans/student-loans/articles/do-private-student-loans-qualify-for-coronavirus-relief>; Adam S. Minsky, “Millions Covered By Multi-State Agreement To Stop Private Student Loan Payments,” *Forbes*, available at <https://www.forbes.com/sites/adamminsky/2020/05/04/millions-covered-by-multi-state-agreement-to-stop-private-student-loan-payments> (“Under the multi-state agreement, borrowers can suspend their payments for up to 90 days. These private student loan lenders have also agreed to waive late fees, report the loans positively to credit bureaus, and to not move forward with new debt collection lawsuits.”).

in all benefits by 15% and boosted every household to the maximum benefit for their size.⁸⁸ In April 2021, the USDA ensured all households received at least a \$95 boost in their SNAP benefits from pre-pandemic amounts.⁸⁹ Further federal support was provided to low-income families via the ARP’s expansion of the Child Tax Credit which increased the tax credit for qualifying children under age six from \$2,000 to \$3,600 and for other qualifying children under the age of eighteen to \$3,000.⁹⁰ The expansion of these programs during the pandemic provided yet another avenue for increased income relief for qualified UI recipients.

41. Beginning early in the pandemic, auto lenders also “widely offered forbearance.”⁹¹ The approval of forbearance was “nearly automatic at many lenders” and, as of June 2021, the level of forbearance was “still higher than before the pandemic, particularly for subprime loans.”⁹² One estimate finds the “average cumulative payments missed by individuals in forbearance during this period [was] (\$398) [in auto] debt.”⁹³ Car insurance companies also paid back consumers for the decrease in driving due to pandemic era stay-at-home policies.⁹⁴ These paybacks provided billions of dollars of relief to American auto insurance customers with 15–25% of premiums returned to policy holders during the pandemic.⁹⁵

⁸⁸ “SNAP Benefits - COVID-19 Pandemic and Beyond,” *U.S. Department of Agriculture Food and Nutrition Service*, November 8, 2023, available at <https://www.fns.usda.gov/snap/benefit-changes-2021>.

⁸⁹ “SNAP Benefits - COVID-19 Pandemic and Beyond,” *U.S. Department of Agriculture Food and Nutrition Service*, November 8, 2023, available at <https://www.fns.usda.gov/snap/benefit-changes-2021>.

⁹⁰ “Child Tax Credit,” *U.S. Department of the Treasury*, available at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-american-families-and-workers/child-tax-credit>.

⁹¹ Tanya Bakshi and Jonathan Rose, “What Happened to Subprime Auto Loans During the Covid-19 Pandemic?” *Federal Reserve Bank of Chicago*, June 30, 2021, available at <https://www.chicagofed.org/publications/blogs/chicago-fed-insights/2021/what-happened-subprime-auto-loans>.

⁹² Tanya Bakshi and Jonathan Rose, “What Happened to Subprime Auto Loans During the Covid-19 Pandemic?” *Federal Reserve Bank of Chicago*, June 30, 2021, available at <https://www.chicagofed.org/publications/blogs/chicago-fed-insights/2021/what-happened-subprime-auto-loans>.

⁹³ Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141–199, p. 142, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf (“The average cumulative payments missed by individuals in forbearance during this period were largest for mortgage (\$4,254) and auto (\$398) debt.”).

⁹⁴ Leslie Scism, “Less Driving, Fewer Accidents: Car Insurers Give Millions in Coronavirus Refunds,” *The Wall Street Journal*, April 6, 2020, available at <https://www.wsj.com/articles/car-insurer-american-family-gives-200-million-in-coronavirus-refunds-as-accidents-decline-11586175602>; “Big Auto Insurers Phase Out Refunds for Policyholders,” *AARP*, April 7, 2020, available at <https://www.aarp.org/auto/car-maintenance-safety/coronavirus-car-insurance-premium-refund/>.

⁹⁵ Joe Hernandez, “You May Have Gotten Shortchanged by \$125 on That COVID Rebate for Your Car,” *NPR*, September 1, 2021, available at <https://www.npr.org/2021/09/01/1033344065/you-may-have-gotten-shortchanged-by-125-on-that-covid-rebate-for-your-car>.

42. Collectively, many additional government and private programs were offered to Americans during the pandemic to improve their financial circumstances. These programs supported individuals receiving unemployment benefits. Thus, proposed class members likely had access to much, if not all, of the aforementioned financial support and forbearance, which would have the dual impact of increasing income and reducing expenses for proposed class members.

C. Given Dr. Levine and Dr. East Do Not Account for Covid-Era Expanded Benefits, Their Conclusions About the Financial Health of Proposed Class Members Are Not Applicable

43. Dr. Levine and Dr. East rely on certain literature to opine that “providing more generous UI benefits leads to a smaller drop in consumption during unemployment.”⁹⁶ In general, academic literature finds that consumption typically drops at the onset of unemployment.⁹⁷ UI helps to moderate this effect.⁹⁸ Ultimately, by helping individuals “smooth” their consumption between employed and unemployed periods, the government issued UI benefits can “raise welfare.”⁹⁹ To quantify how UI benefits smooth consumption, researchers and academics study the relationship between consumption and the generosity of UI payments, frequently by directly measuring spending. From this body of literature, Dr. Levine and Dr. East conclude that “[w]hen UI benefits are delayed,” recipients “are unlikely to have other sources of funds to pay their bills, buy food,

⁹⁶ East Report, ¶ 24. See also Levine Report, ¶ 23 (“[A]vailability of UI benefits “became even more critical in helping mitigate the adverse impacts of the pandemic across various dimensions, including access to household necessities, payment of bills, food insecurity, high-cost borrowing, and other financial hardships.”).

⁹⁷ Ganong, Peter, and Pascal Noel, “Consumer Spending During Unemployment: Positive and Normative Impacts,” *American Economic Review* 109, no. 7, 2019, pp. 2383–2424, p. 2396, available at <https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.20170537> (“Ganong and Noel (2019)”) (“Figure 2 demonstrates that households experience two discrete drops in income during unemployment. First income drops one month before UI payments begin. This is because it usually takes a few weeks to start receiving UI payments after job separation.”); Hurd, Michael, and Susann Rohwedder, “Consumption Smoothing During the Financial Crisis: The Effect of Unemployment on Household Spending,” *Michigan Retirement Research Center*, Working Paper WP2016-353, available at <https://mrdrc.isr.umich.edu/publications/papers/pdf/wp353.pdf> (“We compare spending and income following employment with spending and income while unemployed. We find that by month two of unemployment total household spending per month declined to about 83 percent of pre-unemployment spending.”).

⁹⁸ Gruber (1997), (“The primary benefit of UI is the ability of the government to smooth consumption during unemployment spells.”).

⁹⁹ Gruber (1997), p. 192 (“Thus the provision of public unemployment insurance may raise welfare by filling the missing market for a state-contingent payment.”); Rothstein and Valletta (2017), p. 884 (“When the marginal utility of consumption among the unemployed is lower than that of the employed, social welfare can be improved by transferring additional resources from workers to job-seekers.”).

and afford medical care, so they are forced to incur debt or pay the high costs associated with cutting back on those necessities.”¹⁰⁰ Their conclusions suffer from a number of shortcomings.

44. First, the literature Dr. East and Dr. Levine rely upon largely examines the absence of or loss of the entirety of an individual’s or household’s ongoing UI benefits, rather than examining the [REDACTED]

[REDACTED]¹⁰¹ Second, this literature largely studies pre-pandemic UI benefits, and both Dr. East and Dr. Levine fail to demonstrate its applicability to the period at issue. Researchers have found that the magnitude of consumption smoothing enabled by UI benefits has varied over time.¹⁰² Third, in relying on this literature, they also largely fail to account for the Covid-19 pandemic and the resulting expansion in government benefits programs and protections to temporarily suspend or reduce preexisting student loan, housing, utility, and vehicle payment obligations, as I described in the previous section. Fourth, the literature that does examine UI benefits during the Covid-era points to an altered relationship between unemployment, UI benefit receipt, and consumer spending, as well as other indicators of improved welfare. Dr. Levine and Dr. East do not account for these facts when opining that “without UI, households must turn to expensive borrowing or else incur costs related to foregoing [certain] necessities” during the pandemic.¹⁰³

1. Much of the Literature on which Dr. East and Dr. Levine Rely Does Not Involve a Temporary Loss of Access to a Portion of UI Benefits, Rather it Examines the Expiration of or Complete Absence of UI Benefits

45. A multitude of dissimilarities exist between the populations and benefits analyzed in the literature identified by Dr. East and Dr. Levine and the proposed class members. As discussed in Section V.A, the proposed class members experienced a temporary loss of access to a portion of

¹⁰⁰ East Report, ¶ 27. *See also* Levine Report, ¶ 33 (“My review of the academic literature on UI recipients supports the conclusion that the delay or denial of UI benefits generates a cost for every individual whose benefits were denied.”).

¹⁰¹ PX 74, Remediation Plan, p. 9.

¹⁰² East and Kuka (2015).

¹⁰³ East Report, ¶ 24. *See also* Levine Report, ¶ 34 (“It is my opinion that the typical class member was likely to have suffered at least the cost represented by the credit card interest rate during the time their benefits were denied. This conclusion is based on my research which shows that most class members would have turned to credit card borrowing to cover their essential expenses in lieu of UI, and others would have turned to even higher-cost forms of borrowing.”).

UI benefits as opposed to having their ongoing UI benefits stream expire.¹⁰⁴ Thus, Dr. Levine and Dr. East overestimate the impact denied claims, credit rescission amounts, and frozen account balances likely had on the proposed class members’ financial wellbeing.

46. Dr. East and Dr. Levine cite multiple papers that estimate changes in household food security¹⁰⁵ and consumption¹⁰⁶ in response to ineligibility or elimination of UI benefits. These studies, and thus Dr. East’s and Dr. Levine’s conclusions, suffer from the inapt assumption that proposed class members would respond to, for example, the denied claim amount as if they lost the entirety of their UI benefit amount and would receive no future UI benefits. Relative to this literature, the inability to temporarily access UI funds, experienced by the proposed class members, would be less severe. The “loss” of funds represented by the amount of the denied claim, credit

¹⁰⁴ Note that the literature analyzed differs from the particular circumstances of the proposed class members in other meaningful ways as well. For example, Dr. Levine relies on analyses of Canadian Out of Employment Panel data. See Levine Report, fn. 2; Browning, Martin, and Thomas F. Crossley, “The Life-Cycle Model of Consumption and Saving,” *The Journal of Economic Perspectives* 15, no. 3, 2001, pp. 3–22 at p. 10, available at <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.15.3.3>. However, consumption and unemployment outside of the U.S. (and prior to the Covid-19 pandemic) would not necessarily be applicable to UI benefit recipients in the U.S., in California specifically or to the proposed class members. The impact of unemployment insurance benefits on spending in the context of Covid-era expansion of the government safety net in the U.S. may not reflect Canadian responses where the government safety net, in particular, universal health care, was already available to citizens.

¹⁰⁵ Both Dr. East and Dr. Levine cite Raifman, Julia, et al., “Association Between Receipt of Unemployment Insurance and Food Insecurity Among People Who Lost Employment During the COVID-19 Pandemic in the United States,” *JAMA Network Open* 4, no. 1, 2021, available at <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2775731>, who studied the food security of unemployed households relative to employed households, stratified by UI receipt status. (“OBJECTIVE: To evaluate the association between receipt of unemployment insurance, including a \$600/wk federal supplement between April and July, and food insecurity among people who lost their jobs during the COVID-19 pandemic.”). Additionally, Dr. Levine cites Fang, Di, et al., “Food Insecurity During the COVID-19 Pandemic: Evidence from a Survey of Low-Income Americans,” *Food Security* 14, 2022, pp. 165–183, available at <https://link.springer.com/article/10.1007/s12571-021-01189-1> (“Fang et al. (2022)”), who “conducted a survey in the US on food insecurity among low-income Americans during the early months of the pandemic.”).

¹⁰⁶ Both Dr. East and Dr. Levine cite Ganong and Noel (2019), p. 2396 and Gruber, Jonathan, “The Consumption Smoothing Benefits of Unemployment Insurance,” *American Economic Review* 87, no. 1, 1997, pp. 192–205, p. 192, available at https://www.jstor.org/stable/pdf/2950862.pdf?refreqid=fastly-default%3Acc286b1bd0bda5c4c10610b3acac1ea3&ab_segments=&initiator=&acceptTC=1 (“Gruber (1997)”), which discuss consumption changes during periods of unemployment. Ganong and Noel (2019) “show that spending drops sharply at the large and predictable decrease in income arising from the exhaustion of unemployment insurance (UI) benefits.” Gruber (1997) “asses[es] the benefits of UI by measuring the effect of [public unemployment insurance] on consumption smoothing during periods of joblessness.” Furthermore, Dr. East also cites Rothstein, Jesse, and Robert G. Valletta, “Scraping By: Income and Program Participation After the Loss of Extended Unemployment Benefits,” *Journal of Policy Analysis and Management* 36, no. 4, 2017, pp. 880–908, available at https://jesse-rothstein.com/wp-content/uploads/2017/08/Rothstein_Valletta_JPAM_2017.pdf (“Rothstein and Valletta (2017)”), who “examine[s] household income, program participation, and health-related outcomes during the six months following UI exhaustion.”).

¹¹¹ Thus, the situation analyzed in Fang et al. (2022) is not representative of the circumstances faced by proposed class members.

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49. As a result of these differences, and other significant divergences between the populations analyzed in literature,¹¹² and the proposed class members, Dr. East’s opinion that “without UI, households must turn to expensive borrowing or else incur costs related to foregoing these necessities”¹¹³ and Dr. Levine’s opinion “that the typical class member was likely to have suffered at least the cost represented by the credit card interest rate during the time their benefits were denied”¹¹⁴ are flawed as it pertains to the proposed class and the partial, temporary, loss of UI funds at issue. The literature does not and cannot establish that during the pandemic the portion of UI benefits represented by the denied claim, credits rescission, and frozen account balance amounts allegedly imposed harm to proposed class members (via reduction in necessary spending or cost of borrowing to avoid that reduction) in a manner similar to the programmatic reduction or variability in benefits studied by researchers cited by Dr. East and Dr. Levine.¹¹⁵ Proposed class members are not “without UI,” as those that remain eligible could continue to receive UI benefit income during and after their claims.¹¹⁶

2. Dr. Levine and Dr. East Rely on Literature Regarding Pre-Pandemic UI Benefits and Have Not Demonstrated its Applicability to the Proposed Class Members

50. Academic literature, including most of what Dr. Levine and Dr. East cite,¹¹⁷ largely pre-dates—and thus does not account for—the sustained increases in UI benefits, enhancements to other public support programs, provision of government stimulus benefits, and the opportunity to suspend or forbear existing payment obligations during the pandemic period. This literature, therefore, cannot establish how such safety net program generosity improved the financial resources of many UI recipients.

51. In her own research, Dr. East acknowledges that “changes to the safety net ... both to the UI program itself and other welfare programs” might matter for purposes of understanding how

¹¹² See, e.g., Browning and Crossley (2001).

¹¹³ East Report, ¶ 24.

¹¹⁴ Levine Report, ¶ 34.

¹¹⁵ Browning and Crossley (2001); Gruber (1997), p. 195; Ganong and Noel (2019).

¹¹⁶ East Report, ¶ 24.

¹¹⁷ Dr. Levine and Dr. East cite 20 papers on topics related to consumption smoothing and unemployment, eight of which use data from the actual pandemic period. See Workpaper 3.

consumption changes in response to changes in UI benefits.¹¹⁸ This appears to be a primary motivation for her 2015 publication to “analyze[] the magnitude of the consumption smoothing effect [of UI],” including during the Great Recession.¹¹⁹ As Dr. East notes, the shortcoming of the previous research is that “*it is unclear whether the consumption smoothing effects that have been documented previously still hold.*”¹²⁰ Thus, she expands the time frame analyzed (to include the Great Recession) and concludes that “the consumption smoothing effect of UI was heterogeneous across decades, and significantly smaller in the 1990s compared to the 1970s.”¹²¹ In other words, the conclusions reached by studying a specific period may not be applicable to other periods.

52. Nevertheless, in his report, Dr. Levine relies on the previous research analyzed by Dr. East in her publication to argue that “[j]ob loss leads to a significant decrease in household income, forcing individuals and families to cut back on essential expenses like food, transportation, and childcare.”¹²² In addition to significantly pre-dating the relevant period, one of the cited studies, Browning and Crossley (2001), focuses on Canada, using Canadian data to analyze “how UI helps smooth consumption, with effects varying based on replacement rates, benefit duration, and liquidity constraints.”¹²³ Neither Dr. Levine nor Dr. East establish that the Canadian response to UI would be the same, or even similar, to responses in the U.S. I would expect a variety of factors could impact the relationships analyzed in literature and cited by both Dr. Levine and Dr. East. For instance, in his report, Dr. Levine notes that “[u]nemployed individuals are also more likely

¹¹⁸ East, Chloe N., and Elira Kuka, “Reexamining the Consumption Smoothing Benefits of Unemployment Insurance,” *Journal of Public Economics* 132, 2015, pp. 32–50 (“East and Kuka (2015)”) at p. 32.

¹¹⁹ Dr. East states that “[t]wo other recent papers examine [the consumption smoothing benefits of UI], but neither analyzes the magnitude of the consumption smoothing effect for the most recent decades in the U.S. By this, Dr. East refers to one paper’s “use of Canadian data from the 1990s,” and another’s “use [of] the same sample as Gruber (1997) to examine how the consumption smoothing effects vary over the business cycle.” See East and Kuka (2015), p. 32, fn. 2. The “Great Recession” refers to an economic downturn which occurred between December 2007 and June 2009. It was “the longest recession since World War II” and the U.S. experienced rising unemployment (from 5 percent in December 2007 to 9.5 percent in June 2009) and falling housing prices (by “approximately 30 percent, on average, from their mid-2006 peak to mid-2009.”) See Robert Rich, “The Great Recession,” *Federal Reserve History*, November 22, 2013, available at <https://www.federalreservehistory.org/essays/great-recession-of-200709>.

¹²⁰ Emphasis added. Specifically, she notes “...the long periods of economic expansion in the 1990s and mid 2000s (Zarnowitz, 2000) and the changes to the safety net that have taken place since the late 1980s - both to the UI program itself and other welfare programs (Bitler and Haynes, 2010)” as potentially altering the previously documented relationships. See East and Kuka (2015), p. 32.

¹²¹ She analyzes the Panel Study of Income Dynamics (PSID). See East and Kuka (2015), p. 33.

¹²² Levine Report, ¶ 20.

¹²³ Browning and Crossley (2001); Levine Report, ¶ 20, fn. 2.

to forego healthcare, which is associated with increased health hardships in the future.”¹²⁴ Canadians, however, have access to universal healthcare, suggesting that the consumption smoothing impacts of UI in Canada may have different results than in the U.S.¹²⁵

53. Despite the acknowledged heterogeneity in benefit recipients’ responses to UI over time, Dr. East cites to Gruber (1997) and other research predating the pandemic without providing evidence to support her opinion that “[w]hen UI benefits are delayed... those families are unlikely to have other sources of funds... so they are forced to incur debt or pay the high costs associated with cutting back on [] necessities.”¹²⁶ Dr. East and Dr. Levine’s reliance on research¹²⁷ and surveys predating the Covid-19 pandemic is flawed as they fail to demonstrate that the household consumption responses to changes in UI benefits in 2020–2021 would be consistent with prior periods.

3. Dr. East and Dr. Levine Do Not Account for the Impact Covid-Era Government Program Expansion Had on Individual Financial Well Being

54. Even if the results of the aforementioned studies were directly applicable, Dr. Levine and Dr. East ignore evidence in the literature they cite (and neglect to consider other relevant literature) regarding the impact of the pandemic and the federal government’s response. The pandemic-related benefits expansions, financial support, and suspension of preexisting payment obligations outlined in Section V.B improved the financial status of many individuals receiving government support programs during the pandemic. Government expansions of the social safety net resulted

¹²⁴ Levine Report, ¶ 21.

¹²⁵ “About Canada’s health care system” *Government of Canada* available at <https://www.canada.ca/en/health-canada/services/canada-health-care-system.html> (“Medicare is a term that refers to Canada’s publicly funded health care system.”).

¹²⁶ East Report, ¶ 27. For example, Dr. East references a paper analyzing of “1996–2013 period” of SIPP data and “1993–2015 surveys” from the Behavioral Risk Factor Surveillance System (BRFSS). See Kuka, Elira, “Quantifying The Benefits of Social Insurance: Unemployment Insurance And Health,” *The Review of Economic Statistics* 102, no. 3, 2020, pp. 490–505.

¹²⁷ Dr. East and Dr. Levine cite extensive literature on the consumption smoothing benefits of UI benefits that use data from periods outside of the pandemic. See, e.g., Ganong and Noel (2019); Rothstein and Valletta (2017); Chetty, Raj, “Moral Hazard versus Liquidity and Optimal Unemployment Insurance,” *Journal of Political Economy*, 116, no. 2, 2008, pp. 173–234; Gruber (1997); Fellowes, Matt and Mia Mabanta, “Borrowing to Get Ahead, and Behind: The Credit Boom and Bust in Lower-Income Markets,” *The Brookings Institution*, May 2007, available at https://www.brookings.edu/wp-content/uploads/2016/06/0511metropolitanpolicy_fellowes.pdf; Browning and Crossley (2001); East and Kuka (2015); Kuka, Elira, “Quantifying The Benefits of Social Insurance: Unemployment Insurance And Health,” *The Review of Economic Statistics* 102, no. 3, 2020, pp. 490–505.

in increased spending, saving, and debt repayment and decreased delinquencies, among other measures.¹²⁸ Lower income households and UI benefit recipients were especially benefited—data indicate the progressive nature of the increased unemployment benefits and stimulus had an outsized impact on these populations. Due to these public programs, and despite the pandemic and rampant unemployment, the U.S. “one-year overall poverty decline[d] in 2020” to “its lowest level since 1967.”¹²⁹ In their reports, Dr. East and Dr. Levine do not account for this.

55. The impact of the Covid-era benefits expansion can be evaluated most directly by analyzing the expanded generosity of ongoing UI benefit amounts. As discussed further in Section V.C.4, Ganong et al. (2020) found “between April and July 2020, 76% of workers eligible for regular Unemployment Compensation [had] statutory replacement rates above 100%, meaning that they [were] eligible for benefits which exceed[ed] lost wages.”¹³⁰ Indeed, they calculated the “median statutory replacement rate [was] 145%”—meaning that the median UI recipient received UI benefit income that was 45% larger than their employed income level.¹³¹ Because the amount of additional UI benefits was fixed for all recipients, it represented “a larger percentage of pre-job loss earnings for low than for high earners,” suggesting the benefit expansion had a larger impact

¹²⁸ See, e.g., Olivier Coibion, Yuriy Gorodnichenko, and Michael Weber, “Most Stimulus Payments Were Saved or Applied to Debt,” October 1, 2020, available at <https://www.nber.org/digest/oct20/most-stimulus-payments-were-saved-or-applied-debt> (“Survey data on household behavior suggest that nearly 60 percent of the stimulus spending went to pay off debt or was saved. ... Some 20 percent saved virtually all of their stimulus check; ... another 40 percent spent nearly all of it.”); Cherly Cooper, Maura Mullin, and Linda Weinstock, “COVID-19: Household Debt During the Pandemic,” *Congressional Research Service*, May 6, 2021, available at <https://www.congress.gov/crs-product/R46578> (“[C]redit card balances declined in the second quarter [of 2020] by about \$76 billion, the largest quarterly decline on record. ... In addition, during 2020, the percentage of delinquent loans declined in most consumer debt markets.”); “Consumer finances during the pandemic,” *Consumer Financial Protection Bureau*, available at https://files.consumerfinance.gov/f/documents/cfbp_making-ends-meet-survey-insights_report_2021-12.pdf. (“[T]he percentage of consumers who had difficulty paying bills or expenses fell during the pandemic. ... [D]espite high unemployment and new economic disruptions, the average consumers’ financial status improved sharply at the beginning of the pandemic and continued to improve through June 2021.”); Chetty, Raj, et al., “The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data,” *The Quarterly Journal of Economics*, Volume 139(2), 2024, pp. 829–889, available at <https://academic.oup.com/qje/article/139/2/829/7289247> (“Chetty et al. (2020)”) (“We find that the stimulus payments made in April 2020 increased spending uniformly across the household income distribution.”).

¹²⁹ Danilo Trisi, “Government’s Pandemic Response Turned a Would-Be Poverty Surge Into a Record Poverty Decline,” *Center for Budget and Policy Priorities*, August 29, 2023, available at <https://www.cbpp.org/research/poverty-and-inequality/governments-pandemic-response-turned-a-would-be-poverty-surge-into>.

¹³⁰ Ganong, Peter, et al., “U.S. Unemployment Insurance Replacement Rates During the Pandemic,” *Journal of Public Economics* 191, 2020, 104273 (“Ganong et al. (2020)”), p. 1.

¹³¹ Ganong et al. (2020), p. 1. To note, “[t]he median comprehensive replacement rate [was] 134% ... which instead compares unemployment benefits to a broader measure of lost earnings which includes non-wage compensation like employer-provided health insurance and accounts for the differential tax treatment of labor income and UI.”

on low income households than it did on high income households.¹³² Almost half of all of the FPUC \$600 supplement to UI benefits during the pandemic went “to the bottom earning one-third of workers.”¹³³ Thus if UI recipients, such as the proposed class members, “had very little net wealth” prior to job loss as Dr. East claims, and expanded UI benefits reflect a large percentage of or exceeded their pre-job loss income, then they would have an increased likelihood of being able to manage a temporary loss of a portion of their benefits.¹³⁴ Ganong et al. (2020) conclude “ [t]he presence of the FPUC has important implications for the incidence of the recession and reverses income patterns which would have otherwise arisen across income levels, occupations, and industries.”¹³⁵

56. One implication was, for unemployed households, spending actually *rose* during the pandemic.¹³⁶ Between expanded UI and stimulus payments, unemployed households with incomes under \$1,000 a month “received replacement rates of over 300% and had a “strong spending response” to the direct payments.”¹³⁷ As I discuss further in Section V.B.4, one study (Ganong et al. (2024), cited by Dr. East) found “the supplements [were] so large that they actually [drove unemployed] households fully out of [their] liquidity-constrained state.”¹³⁸ Although aggregate consumption fell in the early stages of the pandemic in March 2020, “[b]eginning in mid-April, when aggregate spending [began] to recover, ... spending recover[ed] much more rapidly for low-income households than for high-income households so that large differences [arose] by the end of May.”¹³⁹ Perhaps counterintuitively, the increased spending also coincided with increases in households’ savings. Ganong et al. (2024) find that “a large and sustained increase in the checking

¹³² Ganong et al. (2020), pp. 1–2. Further, the CARES Act \$600 UI supplement was meant to provide a 100% earnings replacement for mean earnings. Median earnings were less than mean earnings in the U.S., thus the UI benefit recipients with “below-mean prior earnings” received “above-mean replacement rates.”

¹³³ Cortes, Guido Matias, and Eliza Forsythe, “Impacts of the COVID-19 Pandemic and the CARES Act on Earnings and Inequality,” *IZA Institute of Labor Economics*, 13643, 2020, p. 19, available at <https://docs.iza.org/dp13643.pdf>.

¹³⁴ East Report, ¶ 19.

¹³⁵ Ganong et al. (2020), p. 1.

¹³⁶ Ganong et al. (2020), p. 1; Another study found a 100% median replacement rate. *See* Ganong et al. (2024), pp. 2908–2909 (“These supplements lead to a median replacement rate of 100% and the spending of unemployed and employed households is similar after they begin. Thus, we find a strong relationship between unemployment benefit levels and the spending of the unemployed throughout the pandemic.”).

¹³⁷ Cortes, Guido Matias, and Eliza Forsythe, “Impacts of the COVID-19 Pandemic and the CARES Act on Earnings and Inequality,” *IZA Institute of Labor Economics*, 13643, 2020, p. 20, available at <https://docs.iza.org/dp13643.pdf>.

¹³⁸ Ganong et al. (2024), p. 2901.

¹³⁹ Cox, Natalie, et al, “Initial impacts of the pandemic on consumer behavior: Evidence from linked income, spending, and savings data,” *Brookings Papers on Economic Activity*, 2020, p. 38, available at https://www.brookings.edu/wp-content/uploads/2020/06/SU20_S1_Cox-et-al._-final-paper.pdf.

account balances of unemployed households, both in absolute terms and relative to employed households. Increases in income for unemployed households during this period were so large that they accumulated additional savings even as their spending increased.”¹⁴⁰ In addition to expanded unemployment benefits, research at the San Francisco Federal Reserve found that household assistance programs such as “several rounds of national and local eviction moratoriums, which helped households keep their ... housing,” and the combined government spending packages totaling over \$5 trillion in 2020 and 2021 resulted in “households on average, including those at the lower end of the distribution ... [having] more liquid funds at their disposal compared with the pre-pandemic period.”¹⁴¹ Indeed, the same research notes that excess savings, “defined as the difference between actual savings and the pre-recession trend,” could be expected to “continue to support consumer spending at least into the fourth quarter of 2023.”¹⁴² These additional accumulated savings could be used to cover the temporary loss of access to a portion of their UI benefits faced by proposed class members, and this would negate the need to borrow (from credit cards or any other method).

57. Survey data also indicate U.S. households “report[ed] spending approximately 40 percent of their [first] stimulus checks, on average, with about 30 percent saved and another 30 percent used to pay down debt.”¹⁴³ Thus, in parallel to the previously discussed spending and savings increases, many households used the federal government stimulus checks (described in Section V.B.3) to pay down debt. One analysis of Federal Reserve data found that “the share of active credit card accounts that were revolving declined from 50 percent in April 2020 to 45 percent in

¹⁴⁰ Ganong et al. (2024), p. 2909.

¹⁴¹ Abdelrahman, Hamza, and Luiz E. Oliveira, “The rise and fall of pandemic excess savings,” *FRBSF Economic Letter 11*, 2023, available at <https://www.frbsf.org/research-and-insights/publications/economic-letter/2023/05/rise-and-fall-of-pandemic-excess-savings/>.

¹⁴² Authors note that “Overall, estimates suggest the two lowest groups in the income distribution hold between 4% and 29% of the total stock of excess savings.” See Abdelrahman, Hamza, and Luiz E. Oliveira, “The rise and fall of pandemic excess savings,” *FRBSF Economic Letter 11*, 2023, available at <https://www.frbsf.org/research-and-insights/publications/economic-letter/2023/05/rise-and-fall-of-pandemic-excess-savings/>.

¹⁴³ Olivier Coibion, Yuriy Gorodnichenko, and Michael Weber, “Most Stimulus Payments Were Saved or Applied to Debt,” *National Bureau of Economic Research, The Digest*, October 1, 2020, available at <https://www.nber.org/digest/oct20/most-stimulus-payments-were-saved-or-applied-debt> (“US households report spending approximately 40 percent of their stimulus checks, on average, with about 30 percent saved and another 30 percent used to pay down debt.”).

December 2021.”¹⁴⁴ It also found that, for revolving accounts, the “median nominal revolving balances declined from approximately \$1,737 in April 2020 to \$1,529 in December 2021, or about 12 percent,”¹⁴⁵ and “estimated that cardholders increased their next credit card payments by an average of \$20 and \$61 when the second and third economic impact payments were disbursed, respectively.”¹⁴⁶ Moreover, the “number and usage of new cards originated since the start of the pandemic” fell by 20% and 13% in 2020 and the first four months of 2021, respectively.¹⁴⁷ Delinquencies also fell.¹⁴⁸ As a result, 71% of revolvers’ credits scores improved—by 20 points on average between March 2020 and December 2021.¹⁴⁹ As a result, many households would have experienced a lessening of credit constraints during the pandemic.

¹⁴⁴ Revolving accounts are “[a]ccounts for which the cardholder paid less than the entire balance due for the billing cycle, therefore incurring interest on the outstanding balance and any new purchases.” In the context of credit card spending, revolving debt refers to the outstanding balance that a cardholder carries over from one billing period to the next instead of paying it off in full. Debtors with revolving credit card debt are known as “revolvers.” See “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 47, available at <https://www.gao.gov/assets/d23105269.pdf>; “The Consumer Credit Card Market,” *U.S. Bureau of Consumer Financial Protection*, September 2021, p. 33, fn. 60, available at https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2021.pdf (“‘Transacting’ accounts pay off the previous cycle’s balance in full before the end of the next cycle. ‘Revolving accounts pay some amount less than that’” and “an account is considered ‘revolving’ in a cycle if its beginning balance is larger than the sum of payments received in a cycle.”).

¹⁴⁵ “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 20, available at <https://www.gao.gov/assets/d23105269.pdf>.

¹⁴⁶ “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 22, available at <https://www.gao.gov/assets/d23105269.pdf>. To the extent that certain proposed class members had a reduced ability to pay down debt, due to the denied or rescinded fraud claims and/or frozen account balances, the foregone debt repayment is *at most* the credit card rate, and that rate is individualized. These individuals were required to cut necessary spending or borrow from more expensive sources.

¹⁴⁷ Robert M. Adams, Vitaly M. Bord, and Bradley Katcher, “Why Did Credit Card Balances Decline so Much during the COVID-19 Pandemic,” *Board of Governors of the Federal Reserve System*, December 3, 2021, available at <https://www.federalreserve.gov/econres/notes/feds-notes/why-did-credit-card-balances-decline-so-much-during-the-covid-19-pandemic-20211203.html> (“In addition, changes in both the number and usage of new cards originated since the start of the pandemic contributed to decline in balances, explaining approximately 20 percent of the decline in 2020 and 13 percent of the decline in the first four months of 2021.”).

¹⁴⁸ “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 24, available at <https://www.gao.gov/assets/d23105269.pdf> (“Our analysis of Federal Reserve data found that revolvers on average had an increase of 20 points in their credit scores from March 2020 through December 2021. ... Additionally 71 percent of revolvers saw an increase in their credit scores from March 2020 through December 2021.”).

¹⁴⁹ In comparison, 65% of credit card revolvers credit scores improved between March 2018 and December 2019 by an average increase of 7 points. See “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 23, available at <https://www.gao.gov/assets/d23105269.pdf>.

58. The culmination of the government programs that expanded and enhanced unemployment income and transfer programs and reduced required expenditures was that many Americans improved their financial position during the pandemic.¹⁵⁰ Many of the unemployed who received UI benefits (an expanded population resulting from program modifications) received more in UI benefit income than they would have earned while working.¹⁵¹ In addition, the stimulus payments, federal student loan freezes, mortgage forbearance and rent assistance, and other programs, as applicable, further bolstered recipients’ financial resources by providing increased income and reducing some or all of the most significant preexisting payment obligations they may have had.¹⁵² While proposed class members lost temporary access to a portion of their UI income, they benefitted from increased UI generosity because many received higher income before, during, and after their fraud claim denial, credit rescission, and/or account freeze. Thus, UI benefits recipients during the Covid-19 pandemic—such as the proposed class members—would not have been rendered as financially vulnerable by the delayed access to funds, as Dr. East and Dr. Levine conclude, because they were likely in a better financial position (and had a better financial outlook) at the time of their benefit loss than they would have been under the “regular” UI benefits regime. Dr. East’s primary analysis, which considers both pre-pandemic income and certain payment

¹⁵⁰ Hossain, Mallick, “Credit Card Trends During the COVID-19 Pandemic,” *Federal Reserve Bank of Philadelphia*, 2022, p. 5, available at https://www.philadelphiafed.org/-/media/frbp/assets/institutional/banking/surf/spotlights/2022/surf_2022_q1.pdf (“Revolved consumer credit card debt fell dramatically throughout the pandemic, from a peak of \$471 billion in February 2020 to a low of \$327 billion in June 2021.”).

¹⁵¹ Ganong et al. (2020), p. 1 (“76% of workers statutory eligible for regular Unemployment Compensation have replacement rates above 100%, meaning that they are eligible for benefits which exceed lost wages.”); Section V.B.1.

¹⁵² Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141-199, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf (“Over 70 million individuals obtained forbearance between March 2020 and May 2021, totaling loans worth about \$2.3 trillion. The lion’s share of new forbearance initiated during the COVID-19 crisis was in the categories of mortgages and student debt, accounting for \$1.4 trillion and \$655 billion, respectively. Forbearance actions resulted in substantial financial relief for households ... By May 2021, debt forbearance allowed US consumers to miss about \$86 billion of their payments.”), p. 142; (“Between March 2020 and May 2021, 6.3 million mortgages (\$1.4 trillion), 11 million auto loans (\$198 billion), 68 million student loans (\$655 billion), and 62 million revolving loans (\$125 billion) were in forbearance. We find that the debt relief reached its intended target, since forbearance rates are higher in regions with the highest COVID-19 infection rates and the greatest local economic deterioration. Individuals with lower credit scores, lower incomes, and higher debt balances and regions with higher shares of minorities received higher rates of forbearance.”), p. 191.

obligations to assess household savings, explicitly excludes consideration of how these programs and suspended payment obligations improved recipients’ financial wellbeing.¹⁵³

4. Literature Examining the Impact of Pandemic-Era UI Benefits Indicates Many Recipients, Like the Proposed Class Members, Experienced an Improved Financial Condition as a Result of Government Programs

59. The literature examining how consumption changes with UI benefits during the pandemic does not support Dr. East’s and Dr. Levine’s conclusions. Dr. East asserts “[a]n economic study of the pandemic period also confirms that UI served the same purpose in this period as well, when federal expansions to UI benefits expired in 2020 and 2021, those who had previously received these expansions reduced their spending dramatically,” but neither Dr. East nor Dr. Levine have established or shown that this reduction lowered consumption below pre-unemployment or pre-pandemic levels.¹⁵⁴ In fact, the same study Dr. East cites to support this statement, Ganong et al. (2024), examines the supplemental UI benefits during the pandemic and attributes the spending response to changes in individuals’ desired levels of spending given their newly increased income, not to lack of savings or credit availability.¹⁵⁵

60. Dr. East and Dr. Levine assume proposed class members would either borrow (at a credit card or higher rate) or reduce “high-value consumption” because they face liquidity, savings, and credit constraints, and therefore would be unable to make optimal spending decisions.¹⁵⁶ I consider

¹⁵³ Dr. East states “I calculated that even after receiving stimulus payments, most UI recipients in California still had less than one month’s worth of income in net household wealth (calculated in the SIPP). Thus, households receiving UI in this period could not rely on stimulus checks or other government transfers to cover their expenses without UI benefits.” However, her analysis examines the net liquid household wealth for UI recipients also receiving stimulus checks in the year after their last stimulus check—thus, at the earliest, she evaluates the savings impact as of 2021, and primarily measures the impact as of 2022 (as most households in her sample received stimulus in 2021 as well). Thus, she is not capturing the financial wellbeing of UI recipients during the period for which proposed class members would have temporarily lost access to a portion of their benefits, she is largely capturing a savings metric afterwards. Therefore, the net liquid household wealth figures she calculates do reflect the resources available to proposed class members to cover their claims amounts. *See East Report*, ¶ 23.

¹⁵⁴ Dr. East supports this assertion using research that examines the expansion and expiration of UI benefits during the pandemic. She fails to acknowledge the implications of the authors’ observation that “in total, the [UI benefit] supplements are so large that they actually drive households fully out of this liquidity-constrained state. Thus, low liquidity alone cannot explain why supplements drive the spending of unemployed above that of employed workers.” *See Ganong et al. (2024)*, p. 2901.

¹⁵⁵ Ganong et al. (2024), p. 2901 (“[I]n total, the [UI benefit] supplements are so large that they actually drive households fully out of this liquidity-constrained state. Thus, low liquidity alone cannot explain why supplements drive the spending of unemployed above that of employed workers.”).

¹⁵⁶ Dr. Levine explains “high-value consumption” to be “meals or medical care.” *See Levine Report*, ¶ 43.

each constraint assumption in turn. As I discuss below, these broad assumptions are flawed and ignore that during the pandemic many UI recipients, like the proposed class members, would have been able to cover a temporary reduction in benefits by reducing discretionary consumption or relying on savings.

61. First, I consider whether UI recipients during the pandemic, like the proposed class members, were likely to have a **liquidity constraint**, which could prevent them from using their savings or borrowing to cover any temporary loss of income. Section V.C.3. notes that, during the pandemic, the “median statutory [wage] replacement rate [was] 145%” with the \$600 UI benefit expansion during the pandemic.¹⁵⁷ Similarly, approximately 48% of workers had greater than 100% wage replacement when receiving the \$300 UI benefit supplement.¹⁵⁸ On top of being relieved from having to pay many bills they would otherwise have needed to pay, many UI benefit recipients had greater income, and therefore liquidity, as a result of their weekly UI benefits—

[REDACTED]
[REDACTED]
[REDACTED]).¹⁵⁹

62. Ganong et al. (2024), cited by Dr. East, find complementary results. Their research shows “[a]fter households become unemployed and receive[d] \$600 weekly [UI] supplements, their spending [rose] substantially above pre-pandemic levels.”¹⁶⁰ Spending also rose at the onset of the \$300 additional UI benefits.¹⁶¹ Thus, proposed class members who became unemployed during the pandemic would be expected to be able to maintain income levels, and to maintain spending growth in line with households that were employed, at least while receiving supplemental benefits. Ganong et al. (2024) note this represents a change to the usual relationship between unemployment and spending.¹⁶²

¹⁵⁷ Ganong et al. (2020), p. 1.

¹⁵⁸ Ganong et al. (2020), Figure 4.

¹⁵⁹ PX 74, Remediation Plan, p. 8, fn. 27.

¹⁶⁰ Ganong et al. (2024), p. 2907.

¹⁶¹ Ganong et al. (2024), p. 2908 (“Spending then remains depressed until [the \$300 additional UI benefits] begin in January 2021. These supplements lead to a median replacement rate of 100 percent, and the spending of unemployed and employed households is similar after they begin.”).

¹⁶² Ganong et al. (2024), p. 2899. Emphasis added.

Most strikingly, we see that while the \$600 supplement is available, the spending of unemployed households rises after job loss, both in absolute terms and relative to the spending of employed households. ***The increase is a reversal of the usual decline in spending that occurs during unemployment.*** Moreover, this increase is particularly notable since employed households substantially reduced spending during the pandemic.

63. Further, in the same publication, Ganong et al. (2024) observe that UI benefit supplements “are so large that they actually drive households out of [a] liquidity constrained state. Thus, low liquidity alone cannot explain why [UI benefit] supplements drive the spending of unemployed above that of employed workers.”¹⁶³ Counter to Dr. East and Dr. Levine’s assumption, many unemployed individuals during the pandemic were not liquidity constrained, despite their unemployed status.

64. Next, I consider whether UI benefit recipients during the pandemic were likely subject to a **savings constraint**, which could force them to borrow (as opposed to using their savings) to cover any temporary loss of income. The Ganong et al. (2024) study finds that unemployed households accumulated savings during the pandemic:¹⁶⁴

[T]here is also a large and sustained increase in the checking account balances of unemployed households, both in absolute terms and relative to employed households. ***Increases in income for unemployed households during this period were so large that they accumulated additional savings even as their spending increased.***

65. Research by the San Francisco Federal Reserve found that during the pandemic “aggregate personal savings rose rapidly, far beyond its pre-pandemic trend and much higher than in previous recessions.”¹⁶⁵ Ganong et al. (2024) calculate that “[m]ean checking account balances increase[d] \$1,388 for unemployed relative to employed households from April to July 2020.”¹⁶⁶ The increase in checking account balances was not limited to the period of the initial \$600 supplement. Indeed, both the \$600 and \$300 supplements coincided with increases in savings for their sample of UI

¹⁶³ Ganong et al. (2024), p. 2901.

¹⁶⁴ Ganong et al. (2024), p. 2909. (Emphasis added.)

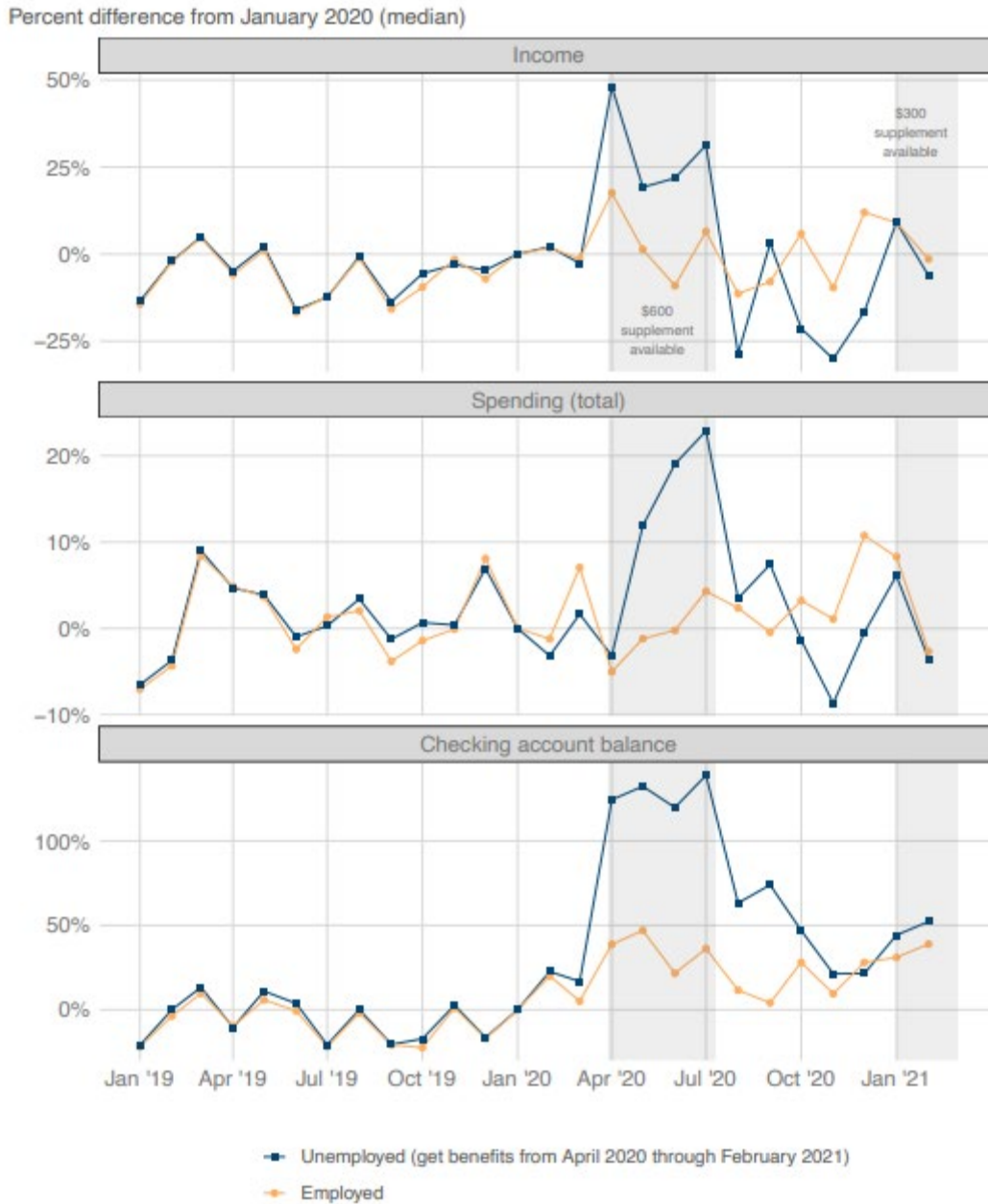
¹⁶⁵ Abdelrahman, Hamza, and Luiz E. Oliveira, “The rise and fall of pandemic excess savings,” *FRBSF Economic Letter 11*, 2023, available at <https://www.frbsf.org/research-and-insights/publications/economic-letter/2023/05/rise-and-fall-of-pandemic-excess-savings/>.

¹⁶⁶ Ganong et al. (2024), p. 2929.

recipients. Those receiving UI during the pandemic, such as the proposed class members, who are in their sample had accumulated savings (represented by the growth in checking account balances) compared to pre-pandemic levels and savings for the unemployed grew at greater rates than they did for the employed. For example, median checking account balances for the unemployed were over 30% higher at the start of 2021 than they had been in January 2020 for the Ganong et al. (2024) unemployed sample. This means that many recipients of UI during the proposed class period, such as the proposed class members, had improved savings relative to the time of their job loss, even when supplemental UI benefit payments were paused in late 2020. *See* Figure 1.

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Figure 1. Median Income, Spending, and Account Balances of Unemployed Versus Employed from Ganong et al. (2024).¹⁶⁷



¹⁶⁷ Ganong, Peter, et al., Online Appendix to “Spending and Job-Finding Impacts of Expanded Unemployment Benefits: Evidence from Administrative Micro Data,” *American Economic Review* 114, no. 9, 2024, available at <https://www.aeaweb.org/content/file?id=2128>, Figure A-4.

66. Thus, counter to Dr. East and Dr. Levine’s assumption, many unemployed individuals during the pandemic were less savings-constrained than prior to the pandemic, despite their unemployed status. This would strengthen their ability to rely on savings to cover the temporary loss of a portion of their UI income without resorting to credit card borrowing or reducing high-value consumption.

67. Finally, I consider **credit constraints**, which could force recipients to reduce high-value consumption in response to a temporary loss of income. Ganong and Noel (2019) find that, prior to the Covid-19 pandemic, “households only borrow[ed] an average of about \$20 per month on Chase credit cards during unemployment, despite having large unused credit lines.”¹⁶⁸ During the pandemic, as outlined in Section V.C.3, U.S. households reported using approximately “30 percent” of their first stimulus check “to pay down debt.”¹⁶⁹ Estimates show credit card payments increased “by an average of \$20 and \$61 when the second and third economic impact payments were disbursed, respectively.”¹⁷⁰ Credit card delinquencies also fell.¹⁷¹ Federal Reserve data revealed that revolving credit card accounts “declined from 50 percent [of active accounts] in April 2020 to 45 percent in December 2021.”¹⁷² Further, the “median nominal revolving balances declined ... [by] about 12 percent” between April 2020 and December 2021.¹⁷³ Since the start of

¹⁶⁸ Ganong and Noel (2019), p. 2421.

¹⁶⁹ Olivier Coibion, Yuriy Gorodnichenko, and Michael Weber, “Most Stimulus Payments Were Saved or Applied to Debt,” *National Bureau of Economic Research, The Digest*, October 1, 2020, available at <https://www.nber.org/digest/oct20/most-stimulus-payments-were-saved-or-applied-debt> (“US households report spending approximately 40 percent of their stimulus checks, on average, with about 30 percent saved and another 30 percent used to pay down debt.”).

¹⁷⁰ “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 22, available at <https://www.gao.gov/assets/d23105269.pdf>. To the extent that certain proposed class members had a reduced ability to pay down debt, due to the denied or rescinded fraud claims and/or frozen account balances, the foregone debt repayment is *at most* the credit card rate, and that rate is individualized. These individuals were required to cut necessary spending or borrow from more expensive sources.

¹⁷¹ “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 24, available at <https://www.gao.gov/assets/d23105269.pdf>.

¹⁷² Revolving accounts are “[a]ccounts for which the cardholder paid less than the entire balance due for the billing cycle, therefore incurring interest on the outstanding balance and any new purchases.” See “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, pp. 16, 58, available at <https://www.gao.gov/assets/d23105269.pdf>; “The Consumer Credit Card Market,” *U.S. Bureau of Consumer Financial Protection*, September 2021, p. 33, available at https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2021.pdf.

¹⁷³ “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 20, available at <https://www.gao.gov/assets/d23105269.pdf>.

the pandemic, “[c]onsumer revolved debt declined by 30 percent ... and by fall 2021, it was shared across all credit score bins, with the sharpest decline being among subprime consumers,” which had fallen by August 2021 to “55 percent relative to February 2020.”¹⁷⁴ As a result, 71% of revolvers’ credit scores improved—by 20 points on average between March 2020 and December 2021.¹⁷⁵ Thus, again, counter to Dr. East and Dr. Levine’s assumption, there is evidence that many Americans during the pandemic reduced their credit usage, suggesting a relaxation of their credit constraints.

68. In aggregate, I find Dr. Levine’s and Dr. East’s assertions that UI recipients like the proposed class members are liquidity constrained (and their entire income reflects their spending), savings constrained, and credit constrained, to be flawed. Due to increases in UI benefits, the expansions to other government support programs, and the suspension or forbearance of UI recipients’ largest regular payment obligations (e.g., homes, utilities, student loans, and/or vehicles), many UI recipients such as the proposed class members were not so constrained. Dr. Levine and Dr. East’s conclusion that proposed class members were forced to borrow or reduce high-value consumption due to these constraints is, therefore, flawed. Rather, as a result of the dual increase in income and decrease in expenditures due to pandemic assistance programs, many UI benefit recipients had transferred out of a liquidity constrained state, had increased savings, had more available credit (due to paying down debt), and had fewer bills to pay (due to pandemic-related forbearance programs). Importantly, this would likely allow many, perhaps even most, of them to address the temporary loss of a portion of UI benefits without needing to borrow on credit cards or otherwise.¹⁷⁶

69. Other public press and academic research also find unusual or abnormal relationships between unemployment or UI claims levels and standard measures of financial health during the pandemic. Flamang and Kancherla (2023) observe a “decoupling of unemployment shocks and

¹⁷⁴ Hossain, Mallick, “Credit Card Trends During the COVID-19 Pandemic,” *Federal Reserve Bank of Philadelphia*, 2022, pp. 5–6, available at https://www.philadelphiafed.org/-/media/frbp/assets/institutional/banking/surf/spotlights/2022/surf_2022_q1.pdf.

¹⁷⁵ In comparison, 65% of credit card revolvers credit scores improved between March 2018 and December 2019 by an average increase of 7 points. See “Credit Cards: Pandemic Assistance Likely Helped Reduce Balances, and Credit Terms Varied among Demographic Groups,” *U.S. Government Accountability Office, Report to Congressional Committees*, September 2023, p. 23, available at <https://www.gao.gov/assets/d23105269.pdf>.

¹⁷⁶ For these individuals, a consumption reduction or the use of savings would reflect the optimal spending level where consumption reductions or use of savings are *less* costly than borrowing.

delinquencies” during the pandemic.¹⁷⁷ Their data indicate “that county-level [mortgage and loan-level] delinquencies actually decreased” during “stark increases in county-level unemployment rates between 2019 and 2020,” and note that “[t]his phenomenon stands *in stark contrast* to the Great Recession, in which both measures simultaneously spiked.”¹⁷⁸ They conclude that “an important driver of this decoupling between delinquency and unemployment is attributable to Covid-era expansions in the UI system.”¹⁷⁹

70. Another study finds that “[t]he 11-percentage-point upsurge in unemployment following California’s executive order to stay at home in response to COVID-19 coincided with a significant decrease in [very low food security] among low-income households with children.”¹⁸⁰ The authors note that “existing systems to quickly identify and enroll eligible families in SNAP (CalFresh in California) and responsive actions to the COVID-19 pandemic by the federal government and California Department of Social Services (CDSS) may explain these findings.”¹⁸¹

71. Finally, a government report finds that “overall personal income and saving increased during the first several months of the pandemic,” despite that “[f]requently, in a recession, when demand falls and unemployment rises, overall levels of personal income decrease.”¹⁸² In fact, this report calculates that “[t]he personal saving rate in the United States increased rapidly from 8.3% in February 2020 to 33.7% by April 2020.”¹⁸³ These increases are attributed “in large part” to the government transfers (i.e., the stimulus payments) and the report notes that in the Federal Reserve Bank of New York’s Survey of Consumer Expectations, respondents reported they had “saved or expected to save 36.4% of the first round of stimulus, 37.1% of the second round of stimulus, and

¹⁷⁷ Flamang, Niklas, and Sreeraahul Kancherla, “Unemployment Insurance as a Financial Stabilizer: Evidence from Large Benefit Expansions,” Working Paper, 2023, p. 2, available at https://nickflamang.github.io/files/UI_Benefit_Expansions_and_Local_Financial_Distress.pdf (“Flamang and Kancherla (2023)”).

¹⁷⁸ Emphasis added. See Flamang and Kancherla (2023), p. 2.

¹⁷⁹ Flamang and Kancherla (2023), p. 2.

¹⁸⁰ Other examples include a decrease in “very low food security (VLFS).” See Fred Molitor and Celeste Doerr, “Very Low Food Security Among Low-Income Households with Children in California Before and Shortly After the Economic Downturn from COVID-19,” *Centers for Disease Control and Prevention*, January 7, 2021, available at https://www.cdc.gov/pcd/issues/2021/20_0517.htm (“Molitor and Doerr (2021)”).

¹⁸¹ Molitor and Doerr (2021).

¹⁸² Marc Labonte and Lida R. Weinstock, “U.S. Economic Recovery in the Wake of COVID19: Successes and Challenges,” *Congressional Research Services*, May 31, 2022, available at <https://www.congress.gov/crs-product/R47115> (“Labonte and Weinstock (2022)”).

¹⁸³ Labonte and Weinstock (2022).

41.6% of the third round of stimulus.”¹⁸⁴ These savings could have been used to cover expenses in lieu of the portion of UI funds that proposed class members were temporarily unable to access.

VI. Neither Dr. East’s nor Dr. Levine’s Opinions are Sufficient to Establish a Need for Proposed Class Members to Borrow, on Credit Cards or Otherwise, in Response to Temporarily Losing Access to a Portion of UI Funds

72. Dr. Levine and Dr. East describe the proposed classes as individuals with low credit scores,¹⁸⁵ having low to no savings,¹⁸⁶ and likely reliant on credit card borrowing.¹⁸⁷ Based on this, they conclude a conservative measure of the opportunity cost of temporarily depriving proposed class members access to a portion of their UI funds is the credit card interest rate. However, Dr. Levine and Dr. East fail to substantiate this claim and ignore data regarding the financial circumstances of proposed class members. In my opinion, there is evidence [REDACTED]

[REDACTED] regardless of if the assumed rate is 15.9% or 20.8%,¹⁸⁸ to make up for their denied claims, rescinded benefits, or frozen funds. In my opinion, these represent an inflated measure of the opportunity cost for many in the proposed class.¹⁸⁹

¹⁸⁴ Labonte and Weinstock (2022). The author notes that this saving was primarily concentrated in high income households. See Chetty et al. (2020).

¹⁸⁵ East Report, ¶ 10.e (“UI recipients almost all have relatively low credit scores”); Levine Report, ¶ 45 (“those who were unemployed during COVID tended to have lower education, which predicts lower credit scores...”).

¹⁸⁶ East Report, ¶ 18 (“I document that UI recipients in California during the pandemic had low levels of savings”); Levine Report, ¶ 35 (“First, it is unlikely that class members could fall back on savings to cover expenses the whole time their UI benefits were denied. Pre-pandemic data shows that only about 37% of all adults had at least one month’s worth of expenses in emergency savings, and for several reasons, it is my opinion that 37% undercounts the percentage of the class in this category.”).

¹⁸⁷ East Report, ¶ 30 (“Many Americans are heavily reliant on credit cards to make ends meet and UI recipients are no exception...” and “Credit card borrowing is the most common source of borrowing among people who receive UI...”); Levine Report, ¶ 12 (“When UI payments disappear, most UI recipients turn to credit cards to cover those expenses.”).

¹⁸⁸ Or the 20% rate Mr. Regan uses in his damages calculation. See Regan Report, ¶ 49.

¹⁸⁹ Dr. Levine concludes “that class members paid an effective interest rate of at least 15.9%” by purportedly “estimating the effects of two known forces: First, people with lower credit scores on average pay higher credit card rates than those with higher credit scores, and those who were unemployed during COVID tended to have lower education, which predicts lower credit scores; and second, Californians have slightly higher credit scores than the rest of the nation.” He provides no calculations or support for this assertion. See Levine Report, ¶ 45. Dr. East’s approach is similarly opaque. She purports to “calculate that the median UI recipient in 2020-2021 had a “Good” credit score,” which she asserts “corresponds to scores of about 739 and below,” and concludes “the vast majority of UI recipients would face a minimum APR of 20.8% on their credit cards.” She further asserts “If anything, this is an underestimate since the APR would be as high as 23.6% for some of the group,” citing to the Consumer Financial

A. Dr. Levine and Dr. East Ignore Evidence Showing Many Proposed Class Members Would Not Have Resorted to Credit Card Borrowing

73. Dr. Levine opines “[t]he credit card rate represents the cost to the typical class member of not receiving their benefits,”¹⁹⁰ and asserts “[w]hen UI payments disappear, most UI recipients turn to credit cards to cover those expenses.”¹⁹¹ Similarly, Dr. East claims “the average credit card interest rate of 20.8% is an appropriate figure to use to calculate the cost to class members resulting from denial of access to their principal claim amounts and frozen account balances.”¹⁹² However, there is evidence to suggest proposed class members would have [REDACTED]

[REDACTED] Both Dr. East and Dr. Levine ignore these alternative sources of capital which would have no or lower cost of borrowing than the average credit card interest rate they claim as the “appropriate figure.”¹⁹³ I analyze case-specific data and documents indicating credit card borrowing was not broadly utilized by the proposed class members to finance their temporarily lost UI benefits.

1. Class Representatives Predominantly Relied on Methods Other than Credit Card Borrowing

74. As an initial matter, I consider the Interrogatory Responses provided by the class representatives to determine if they resorted to any borrowing, and if so, what type, to cover these funds.

Protection Bureau’s “The Consumer Credit Card Market,” Table 1 (for credit score mapping to credit tier) and Section 3, Figure 3 (for average APR of general purpose credit card accounts by credit tier). See East Report, ¶ 36. The underlying data for this report indicates that, in 2020, the average APR for a general purpose credit card was 17.5% for superprime, 21% for prime, 22.6% for near-prime, 23.3% for subprime, 23.9% for deep subprime, and 19.2% overall. None of these figures correspond to the credit card interest rates she cites in her report—though the prime rate, at 21%, does approximate the 20.8% she opines would be appropriate. However, her calculation of the median credit card score of “Good,” or “739 and below,” would include to the superprime tier (“scores of 720 or greater”) in the Table 1, which she cites in her report. See “The Consumer Credit Card Market,” *Bureau of Consumer Financial Protection*, September 2021, available at https://files.consumerfinance.gov/f/documents/cfbp_consumer-credit-card-market-report_2021.pdf; “Consumer Credit Card Market Figure Data,” *Bureau of Consumer Financial Protection*, September 2021, “Section 3 – Cost” tab, available at https://www.consumerfinance.gov/documents/10205/cfbp_consumer-credit-card-market-report-figure-data_2021.xlsx.

¹⁹⁰ Levine Report, ¶ 12.

¹⁹¹ Levine Report, ¶ 12.

¹⁹² East Report, ¶ 10.f.

¹⁹³ Mr. Regan “selected” a similar figure, 20%, to calculate damages. See Regan Report, ¶ 49.

75. [REDACTED]
[REDACTED]
[REDACTED]¹⁹⁴
[REDACTED]
[REDACTED]¹⁹⁵ [REDACTED]
[REDACTED]
[REDACTED]¹⁹⁶ [REDACTED]¹⁹⁷ See
Exhibit 1 summarizing the class representatives’ Interrogatory Responses regarding [REDACTED]
[REDACTED]

¹⁹⁴ [REDACTED]
Plaintiff Stephanie Moore’s Supplemental Objections and Response to Bank of America N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Moore Interrogatory Responses”). See Exhibit 1

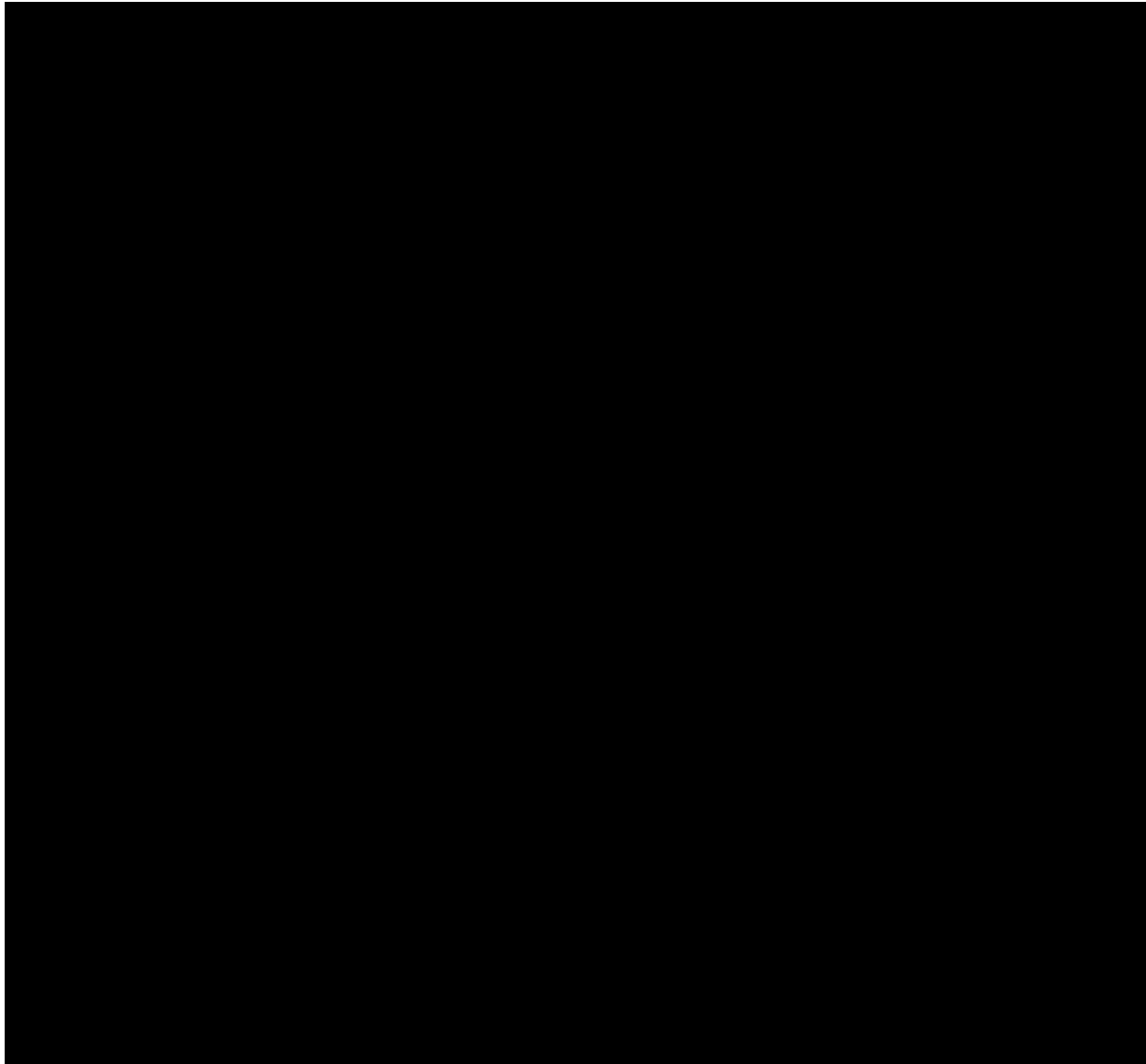
¹⁹⁵ Plaintiff Kuang Ting Chong’s Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Chong Interrogatory Responses”); Plaintiff Roland Oosthuizen Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Oosthuizen Interrogatory Responses”); Plaintiff J. Michael Willrich’s Supplemental Objections and Response to Bank of America N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Willrich Interrogatory Responses”); Plaintiff Alex Yuan’s Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Yuan Interrogatory Responses”).

¹⁹⁶ Plaintiff Candace Koole’s Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Koole Interrogatory Responses”).

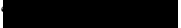
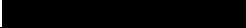
¹⁹⁷ Plaintiff Lindsay McClure’s Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“McClure Interrogatory Responses”); Plaintiff Azuri Moon’s Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Moon Interrogatory Responses”); Plaintiff Vanessa Rivera Supplemental Objections and Response to Bank of America, N.A.’s First Set of Interrogatories, *In Re Bank of America California Unemployment Benefits Litigation*, January 29, 2024 (“Rivera Interrogatory Responses”).

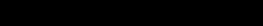
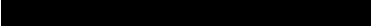
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Source: Yuan Interrogatory Responses, p. 29:23–25; Moon Interrogatory Responses, p. 30: 25–34:7; Koole Interrogatory Responses, p. 32:18–22; Willrich Interrogatory Responses, p. 33:15–16; Chong Interrogatory Responses, p. 28:2–4; McClure Interrogatory Responses, p. 29:15–16; Oosthuizen Interrogatory Responses, p. 26:2–6; Moore Interrogatory Responses, p. 29:8–23; Rivera Interrogatory Responses, p. 36:24–25.

Note: Analysis is limited to the sources of funding that the class representatives stated they relied upon in response to Bank of America N.A.’s First Set of Interrogatories. The “” category for Azuri Moon represents 

The “” category for Stephanie Moore represents 

76. 



[REDACTED]¹⁹⁸ I understand California Usury law limits the maximum interest rate that friends and family can charge one another for a loan to 10%—much less than the 20.8% proposed by Dr. East.¹⁹⁹ Any foregone interest on personal savings accounts would have been far lower when compared to the 15.9%–20.8% credit card rates proffered by Dr. Levine and Dr. East.²⁰⁰ Thus, far from the credit card rate representing “an appropriate minimum bound for the costs of the class” that “result ... from losing access to UI benefits,” as Dr. East asserts, the credit card borrowing rate is instead above the upper bound of the cost of borrowing for the class representatives.²⁰¹

77. The available discovery responses of the named plaintiffs further suggest credit card borrowing or any borrowing at a similar or even higher interest rate was not a primary source of borrowing for many class members. Of the 48 named plaintiffs who are proposed class members and who served written interrogatory responses, only 7 stated they [REDACTED]

[REDACTED]²⁰² This provides additional support that credit card borrowing represents a rarely used method of borrowing among the proposed class members.

2. Analysis of the SHED, HPS, and SIPP Data Used by Dr. East and Dr. Levine Suggests That Proposed Class Members Were Unlikely to Use Credit Card Borrowing

78. Neither Dr. Levine nor Dr. East provide compelling evidence that the proposed class members would have been unable to fund spending using their savings or other lower cost forms of borrowing than credit card borrowing when they temporarily lost access to a portion of their UI benefits. In her report, Dr. East attempts to establish proposed class members had insufficient savings by examining the portion of pre-unemployment monthly household income covered by

¹⁹⁸ See Deposition of Vanessa Rivera, February 29, 2024: 118:15–120:5 (“[REDACTED]”); Deposition of Lindsay McClure, March 12, 2024: 158:17–159:11 [REDACTED]

¹⁹⁹ “California Constitution Article 15,” *State of California – Department of Justice*, available at <https://oag.ca.gov/sites/all/files/agweb/pdfs/consumers/constitution.pdf>.

²⁰⁰ Taylor Tepper and Johanna Leggatt, “History of Savings Account Interest Rates,” *Forbes*, February 4, 2025, available at <https://www.forbes.com/advisor/banking/savings/history-of-savings-account-interest-rates/>; “Thinking of Taking Money Out of a 401(K)?” *Fidelity*, June 26, 2024, available at <https://www.fidelity.com/viewpoints/financial-basics/taking-money-from-401k>.

²⁰¹ East Report, ¶¶ 35–36.

²⁰² See Workpaper 4.

pre-unemployment net liquid household wealth for a sample of UI benefit recipients in California (primarily measured as of 2019 for the sample data) from SIPP data.²⁰³ She assumes “household monthly income is ... [a] proxy for the household’s monthly expenditures.”²⁰⁴ From this, she calculates that “the median UI recipient had 7.2%,” “the average (mean) UI recipient had 219.7%” of their monthly household income (and thus, expenditures) in net liquid household wealth, and “67% of UI recipients have household net wealth under 100% of household monthly income.”²⁰⁵ Dr. East concludes that this provides “evidence” of “the vast majority of UI recipients in California between 2020 and 2021 being unable to cover their expenses if they suddenly lose access to UI benefits.”²⁰⁶ This conclusion is flawed. It does not account for how the pandemic stimulus payments and increased UI benefits increased both income and savings for many UI recipients, like the proposed class members.

79. Conceptually, net liquid household wealth is meant to represent “readily available wealth.”²⁰⁷ Dr. East calculates net liquid household wealth by subtracting household unsecured debt from liquid assets for the year prior to receiving UI benefits.²⁰⁸ By subtracting unsecured debt, the metric is meant to account for short-term debt that “affects immediate liquidity.”²⁰⁹

80. Dr. East ignores the impact of Covid-era payments on UI recipients’ financial resources by focusing on the year before UI benefit receipt. As discussed in Section V, pandemic-related stimulus resulted in many households increasing their savings. By analyzing pre-pandemic wealth, Dr. East ignores pandemic-related stimulus, and the cumulative impact those payments, the

²⁰³ I discuss this metric and Dr. East’s analysis of UI benefit recipients in California further in Section VI.B.

²⁰⁴ East Report, ¶ 18.

²⁰⁵ East Report, ¶ 19.

²⁰⁶ East Report, ¶ 20.

²⁰⁷ André Victor D. Luduvic and Anaya Truss-Williams, “How Insured Are Workers Against Unemployment? Unemployment Insurance and the Distribution of Liquid Wealth,” *Federal Reserve Bank of Cleveland*, October 15, 2024, available at <https://www.clevelandfed.org/publications/economic-commentary/2024/ec-202416-unemployment-insurance-and-distribution-of-liquid-wealth> (“Luduvic and Truss-Williams (2024)”).

²⁰⁸ East Report, ¶¶ 17–18. Dr. East uses the field “THVAL_BANK” for respondents’ liquid assets, and she uses “THDEBT_USEC” for respondents’ unsecured debt amount. See East Report Backup Materials, ‘01_b_CleanSipp.do’. According to the 2021 SIPP Data Dictionary, THVAL_BANK is the “household-level sum of value of assets held at financial institutions” and THDEBT_USEC is the “household-level sum of value of amount owed on all unsecured debt.” See “2021 SIPP Data Dictionary”, *United States Census Bureau*, available at <https://www.census.gov/programs-surveys/sipp/tech-documentation/data-dictionaries/data-dictionaries-2021.html> (“2021 SIPP Data Dictionary”).

²⁰⁹ Luduvic and Truss-Williams (2024).

expanded UI benefits payments, and the reduced spending obligations could have had on recipients’ net liquid household wealth.²¹⁰

81. One of the major components of government support during the pandemic was the three waves of direct stimulus checks issued to all Americans below a certain income threshold. Throughout 2020 and 2021, these checks amounted to a total of \$3,200 for individual adult households (and would be twice as much for households with two adults, plus additional amounts per household dependent).²¹¹ As previously noted, the Federal Reserve Bank of New York’s Survey of Consumer Expectations reported that respondents had “saved or expected to save 36.4% of the first round of stimulus, 37.1% of the second round of stimulus, and 41.6% of the third round of stimulus.”²¹² For a single adult household, this translates into savings of \$1,241 from stimulus checks alone.²¹³

²¹⁰ Dr. East conducts a sensitivity to her analysis to determine if the pandemic stimulus payments impacted household savings. She concluded that “even after receiving stimulus payments, most UI recipients in California still had less than one month’s worth of income in net household wealth.” See East Report, ¶ 23. I discuss this analysis further in Section VI.B.3.

²¹¹ See Section V.B.3. In April 2020, January 2021, and March 2021 stimulus checks of \$1,200, \$600, and \$1,400, respectively, per adult were issued to households earning less than \$75,000 per adult per year.

²¹² Labonte and Weinstock (2022).

²¹³ For households with two adults making less than \$150,000 a year, this additional savings amounted to \$2,484.

82. Using these stimulus savings rates,²¹⁴ I apply the expected savings amount to each stimulus check separately to provide an estimate of potential savings.²¹⁵ Then, I compare each denied claim amount date, credit rescission date, and account freeze date to the estimate of stimulus savings from stimulus checks that would have been received prior to that date.²¹⁶ In total, [REDACTED] of proposed class members could have covered the entirety of their claim amounts using the estimated stimulus savings received prior to the claims dates.²¹⁷ For the remaining [REDACTED] of proposed class members, I calculate that the median member of that group, could have covered [REDACTED] of their total claim amount using estimated stimulus savings to date. These calculations rely entirely on savings from stimulus checks, and, as I describe in Section V.B, pandemic programs helped increase income and decrease expenses in a multitude of additional ways for many UI recipients. When combined

²¹⁴ I note that the savings rates calculated for each round of stimulus reflect all American households, not just UI benefit recipients. As such, these rates may overestimate the percent of stimulus saved by UI recipients in each round (who may have had lower savings rates). On the other hand, the assumption that savings rates would apply to a one adult household’s stimulus amounts is likely conservative. Ganong et al. (2024) estimate median income changes from January 2020 to various points during the pandemic for those who became unemployed in April 2020. Their results suggest that, at least early in the pandemic, the stimulus savings estimates may be an underestimate. For example, median checking account balance in January 2020 was \$1,506 and in July 2020 was \$3,489, suggesting an increase in the median savings in checking accounts of approximately \$1,983 for households which became unemployed in April 2020 and were still eligible for unemployment in July 2020. Since this predates the latter two federal stimulus checks, the \$437 estimated stimulus savings from the first payment may be conservative when combined with other government support such as the expanded \$600 per week in federal unemployment benefits through July 2020. In addition, Ganong et al. (2024) estimate the median checking account balance in January 2020 was \$1,544 and in January 2021 was \$2,201, implying an increase in the median savings in checking accounts of approximately \$657 for households which became unemployed in April 2020 and were still eligible for the expanded \$300 per week unemployment benefits in January 2021. This timing coincides with the second of the three federal stimulus checks, and closely approximates \$659 in estimated stimulus savings from the first two payments. Finally, Ganong et al. (2024) estimate the median checking account balance for households who became unemployed in April 2020 was \$1,649 in January 2020 and \$2,600 in September 2021, suggesting an increase in the median savings in checking accounts of about \$951 between the start of 2020 and the point they lost access to the \$300 per week in expanded federal UI benefits in September 2021. This is about \$300 below the household estimated stimulus savings of \$1,241. See Peter Ganong et al. (2024, Online Appendix), pp. 50, 55.

²¹⁵ To be conservative, I assume that each proposed class member receives the total stimulus amount for a single adult household. Thus, I calculate savings from the first check to be \$437 (36.4% x \$1,200); from the second check to be \$223 (37.1% x \$600); and from the third check to be \$582 (41.6% x \$1,400).

²¹⁶ I assume class members had received their first stimulus check by June 18, 2020 when the first claim in Regan Report, Schedule 1 was made, and had received their second stimulus check by January 1, 2021, and received their third stimulus check by April 1, 2021.

²¹⁷ Workpaper 1. [REDACTED] from Regan Report, Schedule 1. If a proposed class member has multiple claims across different dates, I compare the total claim amount on a given date to the total estimated stimulus payments received prior to that date. Should that proposed class member have an additional claim at a later date, I compare that new claim amount to the sum of any remaining estimated stimulus savings from prior to the first claim and an additional stimulus savings from the interim between the claims. I presume class members would have received their first stimulus check by September 28, 2020, their second stimulus check by January 1, 2021, and their third check payment by April 1, 2021.

with the stimulus savings analyzed above, this reduces the chances that proposed class members would need to resort to credit card borrowing.²¹⁸

83. Another major component of pandemic government support was the enhanced UI benefits that reduced liquidity constraints for many households.²¹⁹ Dr. East’s net liquid wealth analysis is further misleading because she reports net liquid wealth as a fraction of pre-unemployment monthly income, assuming that 100% of income was used to cover expenses. She provides no support for this assumption. Moreover, the ability to cover monthly expenditure through savings is irrelevant to the potential harm allegedly caused by plaintiffs’ temporary lost access to funds.²²⁰

[REDACTED]

[REDACTED]²²¹ Therefore, the ability of their savings to cover monthly expenditures is only relevant insofar as it is compared to the total proportion of monthly expenditures represented by the total fraud claim amount. As a result, Dr. East’s analysis of net liquid household wealth has not appropriately ascertained these households’ ability to use savings to cover any temporary lost access to a portion of their UI benefits income.

84. To illustrate this, I calculate the average of UI weekly benefit amounts (averaged by calendar month) in California over two time frames. The two time frames analyzed represent periods in which the UI benefit regimes were distinct.²²² Federal Pandemic Unemployment Compensation (“FPUC”) provided an additional \$600 per week in UI benefits from March through July 31, 2020 and then no additional benefits were provided until December 26, 2020 when an

²¹⁸ Workpaper 1. In fact, the median percent of claims amounts covered by the estimated stimulus savings, irrespective of timing, was 85.6% for the remaining 60% of proposed class members for whom the stimulus savings amounts and timing would not have entirely covered their claims.

²¹⁹ See Sections V.B.2 and V.C.

²²⁰ East Report, ¶ 10 (“the median UI recipient had 7.2% of monthly household income in net household wealth.”).

²²¹ PX 74, Remediation Plan, p. 9.

²²² The CARES Act, passed on March 27, 2020, “provided federally funded additions of \$600 to weekly benefit amounts that expired on July 31, 2020.” See William J. Congdon and Wayne Vronman, “Extending Unemployment Insurance Benefits in Recessions,” *U.S. Department of Labor*, February 2021, available at https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/ETA_GreatRecession_Extending-Benefits_%20IssueBrief_March2021.pdf; “Public Law 116–136,” *Congress.gov*, available at <https://www.congress.gov/116/plaws/publ136/PLAW-116publ136.pdf>; Lance Lambert, “When Does the Extra \$600 in Federal Unemployment End? What to Know Before It Expires,” *Fortune*, June 28, 2020 available at <https://fortune.com/2020/06/28/extra-unemployment-money-coronavirus-stimulus-when-does-it-end/>.

additional \$300 per week in UI benefits were provided until September 6, 2021.²²³ I compare the implied average monthly UI benefit amount to the median combined claim amount for the proposed class members using the date of lost access to funds for a given proposed class member.²²⁴ To be conservative, I do not allow negative balances at the time of account freeze to offset claim denial and/or credit rescission amounts; in these cases, I set the total claim amount to be the total of the positive denied claim amount or credit rescission amount only. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED].²²⁵ The weighted average of the median combined fraud claim amounts totals a little more than [REDACTED]

[REDACTED]
[REDACTED]²²⁶

²²³ “Attachment I to Unemployment Insurance Program Letter No. 14-21: Coordination of Programs,” *U.S. Department of Labor*, March 15, 2021, available at https://www.dol.gov/sites/dolgov/files/ETA/advisories/UIPL/2021/UIPL_14-21_Attachment_1_acc.pdf.

²²⁴ The date of access lost to funds is determined by the following: if the proposed class member has an account freeze date present, the account freeze date is used; otherwise, if the account had a fraud filter date, the earliest fraud filter date is used. *See* “Average Weekly Benefit Amount,” *State of California Employment Development Department*, available at https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fedd.ca.gov%2Fsiteassets%2Ffiles%2Fabout_edd%2Fquick-stats%2Fqsui-avg_wba.xlsx&wdOrigin=BROWSELINK; Regan Report, Schedule 1. I use the average weekly UI benefit amount in California as the data necessary to calculate the median are unavailable to me. The combined claim amount is defined as the sum of total claim amounts, total credit rescission and account freeze amounts.

²²⁵ [REDACTED]

[REDACTED] I have analyzed the available proposed class member transactions data and found that none of the 51 proposed class members in the data [REDACTED]

[REDACTED] *See* Workpaper 5; BANA_EDD_MDL-00694814.

²²⁶ I note that this may be a conservative estimate as UI benefit recipients can have alternative sources of income in addition to their UI benefit income.

Exhibit 2. [REDACTED] ²²⁷

Time Frame ^[1]	UI Benefits			Fraud Claim Amounts			Class Members ^[6]
	CA Average Weekly	FPUC ^[2]	Weekly Total ^[3]	Implied Monthly Total ^[4]	Median ^[5]	% of Monthly UI	
September 2020–December 2020	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
January 2021–June 2021	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Weighted Average	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: 2025.03.04 - In Re BofA Cal Unemployment Benefits Litigation - Regan Schedule 1.xlsx; “Average Weekly Benefit Amount,” *State of California, Employment Development Department*, available at https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fedd.ca.gov%2Fsiteassets%2Ffiles%2Fabout_edd%2Fquick-stats%2Fqsui-avg_wba.xlsx&wdOrigin=BROWSELINK

[1] To be conservative, the entirety of a proposed class member’s denied claim, rescinded credit, and or balance at account freeze amount (together, the “Fraud Claim Amount”) is allocated to a time frame based on the earliest of any fraud filter file date or fraud filter freeze date for that proposed class member’s claims.

[2] I presume this analysis to be conservative as it ignores the possibility of excess liquidity through savings of the earlier \$600 FPUC amounts between April and July 2020.

[3] The CA Average Weekly represents the average of the average weekly benefit amount for the associated time frames.

[4] The implied monthly total assumes $(52/12) = 4.3$ weeks of UI benefits.

[5] If claim amount or balance at account freeze is missing in the data, it is presumed to be zero for the purpose of this analysis. If the account balance at the time of freeze is negative, then the balance amount is considered to be \$0 when calculating the total Fraud Claim Amount.

[6] Proposed class members with \$0 in total Fraud Claim Amounts (due to having a negative balance at the time the account is frozen and missing denied claims, or rescinded credit amounts) are excluded from this analysis. The earliest claim date is used for class members with multiple claim dates.

85. As a result of pandemic stimulus and UI benefit expansion, UI benefit recipients like those in the proposed class were likely to have greater liquidity and greater savings than Dr. East accounts for in her analysis. She presumes all benefit recipients are liquidity constrained and none of the UI benefit income received by the proposed class members, either prior to, during, or after the denied claim, credit rescission, and/or account freeze, is or could be allocated to savings. As I discuss in Section V, however, during the pandemic this was not the case for many UI benefit recipients. Thus, the size of proposed class members’ claims with respect to ongoing UI benefit income stream is important. The increases to UI benefit income streams may have enabled recipients to cover their claims amounts given that the claims frequently represented approximately one half or less of one month’s income stream.²²⁸

²²⁷ See Exhibit 2. I presume these results to be conservative as California continued to backdate the \$600 Pandemic Unemployment Assistance claims through September 4, 2020. My analysis assumes that no class members received backdated PAC payments.

²²⁸ I note that, in Section VI.B I calculate that, adjusted to exclude student loan debt, the median California UI recipient had 41.4% of monthly household income in net liquid household wealth prior to the pandemic.

B. Evidence in Dr. Levine’s and Dr. East’s Data Sources Contradict Their Conclusions That UI Benefit Recipients Would Have Resorted to Credit Card Borrowing

86. The data sources on which Dr. Levine and Dr. East rely to show that many UI benefit recipients would have resorted to credit card borrowing do not support their conclusions. These data indicate that, in the U.S. and in California specifically, UI benefit recipients would have had other financial resources when faced with the temporary reduction in access to their UI benefits. Dr. Levine’s and Dr. East’s conclusions that not only would the proposed class members rely on credit card borrowing at a 15.9%–20.8% interest rate, but also that this represents a likely conservative estimate, rely entirely on inaccurate characterizations of data on UI benefit recipients. An analysis of the survey data used in Dr. East’s and Dr. Levine’s Reports shows that many UI benefit recipients had alternative methods to cover the disruption to a portion of their UI benefits. In my opinion, the use of a 15.9%–20.8% opportunity cost of lost funds is unsupported and inflated.²²⁹

1. Analysis of the SHED Data Indicates That Credit Card Borrowing with Interest for an Emergency Expense Would Be Rare Among UI Recipients

87. In her report, Dr. East opines “the average credit card interest rate is a conservative estimate of the costs faced by the class members who were denied access to their UI benefits when due and thus denied the full value of those benefits.”²³⁰ Likewise, Dr. Levine opines that the “credit card interest rate is a conservative measure of the opportunity cost of lost funds to the proposed class members.”²³¹ In support of these opinions, Dr. East analyzes the Federal Reserve Board’s SHED survey data, which captures information regarding UI recipients’ financial status, debt, and ability to make full payments on monthly expenses, during 2020 and 2021, while Dr. Levine does not

²²⁹ Mr. Regan calculates damages using a credit card interest rate of 20%. *See* Regan Report, ¶ 49. (“Ultimately, though, to be conservative, I selected 20% as the APR for my second calculation of the time value of money. This 20% rate is consistent with my prior experience studying unsecured consumer debt such as credit cards.”).

²³⁰ East Report, ¶ 10.e.

²³¹ Levine Report, ¶ 13.

support his opinion with any quantitative analysis.²³² However, my analysis of the SHED data suggests that the credit card borrowing rate is an inflated and unsupported estimate for the opportunity cost of having temporarily lost access to some amount of UI funds.

88. In establishing her opinions, Dr. East first claims UI recipients in 2020–2021 were “in a precarious financial situation.”²³³ Therefore, she asserts, UI is important for recipients’ ability to make necessary monthly expenditures and the loss of UI benefits results in negative outcomes. To reach this conclusion, Dr. East analyzes SHED data regarding how households receiving UI reported they would handle a \$400 unexpected expense (less than two weeks of the average “regular” UI benefit received by Californians during the pandemic). Based on this data, she claims “[c]redit card borrowing is the most common source of borrowing among people who receive UI.”²³⁴ Implicit in her analysis is the assumption that class members might react to the temporary loss of access to UI funds in a similar manner as they would to an unexpected expense. Thus, I note that approximately [REDACTED] of the proposed Claim Denial subclass, [REDACTED] of proposed Credit Rescission subclass, and [REDACTED] proposed Account Freeze subclass with positive balances at freezing had claim amounts or frozen balances less than [REDACTED].²³⁵

89. Dr. East arrives at her conclusion that credit card borrowing is the most common source of borrowing among those who receive UI by excluding from her calculation those UI recipients who indicate they would handle such an expense *exclusively* “[w]ith the money currently in my checking/savings account or with cash.”²³⁶ By excluding these respondents, she ignores a portion of UI benefit recipients who *would not need to resort to any borrowing*—a population for whom the credit card interest rate would greatly exceed their actual costs. Almost half of UI recipients (45.1%) indicated reliance on checking/savings accounts or cash, at least in part.²³⁷ In fact, about

²³² East Report, ¶ 21 (“Additionally, I have used data from the Federal Reserve Survey of Household Economics and Decisionmaking (SHED)...”). Since 2013, SHED has collected data that “measures the economic well-being of U.S. households and identifies potential risks to their finances.” See “Survey of Household Economics and Decisionmaking,” *Board of Governors of the Federal Reserve System*, May 21, 2024, available at <https://www.federalreserve.gov/consumerscommunities/shed.htm>.

²³³ East Report, ¶ 21.

²³⁴ East Report, ¶ 30. See East Report Backup Materials.

²³⁵ Workpaper 6. When combining claim denial amounts, credit rescission amounts, and frozen balance amounts for class members, where applicable, [REDACTED] of class members have total combined claim amounts of less than [REDACTED].

²³⁶ This response option is captured in the EF3_c field from the SHED data, which Dr. East uses in her analysis. See “Codebook for 2020 Survey of Household Economics and Decisionmaking,” *U.S. Federal Reserve*, available at https://www.federalreserve.gov/consumerscommunities/files/SHED_2020codebook.pdf; East Report Backup Materials, “02_b_CleanSHED.do” and “02_c_SHEDAnalysis.do”.

²³⁷ Workpaper 7.

an equal portion of respondents (31.0%) indicated they would rely *exclusively* on checking/savings accounts or cash as the portion that indicated they would rely on *only* credit card borrowing.²³⁸ By not considering the respondents who rely on only checking/savings accounts or cash, Dr. East artificially inflates the percentage of UI recipients who indicated they would use a credit card to pay an unexpected \$400 expense and removes from consideration a popular, and significantly lower, cost source of covering claim amounts. Further, UI recipient respondents who indicate using checking/savings accounts or cash and/or borrowing from friends or family, another source of funds that is lower cost than credit card borrowing, over half of these respondents (54.0%) would rely, at least in part, on either of these two methods.²³⁹ Including respondents who relied only on checking/savings account or cash, Exhibit 3 below calculates the portion of respondents to select each option.

²³⁸ Workpaper 7.

²³⁹ Workpaper 7. 34.2% of respondents indicate the cash and checking/savings account option only, the borrowing from friends and family option only, or both cash and checking/savings account and borrowing from friends and family options only.

Exhibit 3. SHED UI Recipient Respondents’ Form of Paying \$400 Expense.

Response Option	Percent of Respondents Who Selected Option	Percent of Respondents Who Selected Only This Option
Put it on my credit card and pay it off in full at the next statement	29.8%	20.2%
Put it on my credit card and pay it off over time	19.3%	10.1%
With the money currently in my checking/savings account or with cash	45.1%	31.0%
Using money from a bank loan or line of credit	2.8%	0.7%
By borrowing from a friend or family member	12.3%	2.7%
Using a payday loan, deposit advance, or overdraft	2.0%	0.1%
By selling something	10.1%	1.5%
I wouldn't be able to pay for the expense right now	14.5%	9.9%
Refused to answer	0.3%	0.3%
Total	2,615	2,022

Source: SHED data

Note: The percentages are weighted based on the survey weight associated with each respondent. The weighting adjusts for the differences between respondents and nonrespondents based on each respondent's sampling area. This weighting methodology is consistent with the weighting methodology employed by Dr. East.

90. Less than one-third report relying on credit cards only and less than one-half (46.4%) indicate they would use credit card borrowing at all.²⁴⁰ Importantly, this survey requires respondents to indicate whether their credit card use to fund the unexpected \$400 expense would be paid off in full at the next statement or paid off over time.²⁴¹ Credit card borrowing paid off in full at the next statement has no cost of borrowing (accounts paid in full in each billing cycle are referred to as being in the “grace period,” and balances from that balance cycle accrue no interest).²⁴² The cost of credit card borrowing for these UI recipient respondents is likely zero, and

²⁴⁰ Workpaper 7.

²⁴¹ “Codebook for 2020 Survey of Household Economics and Decisionmaking,” *U.S. Federal Reserve*, available at https://www.federalreserve.gov/consumerscommunities/files/SHED_2020codebook.pdf.

²⁴² Jim Akin, “What Is a Grace Period?” *Experian*, March 10, 2024, available at <https://www.experian.com/blogs/ask-experian/what-is-a-grace-period/>.

the credit card borrowing rate an overestimate. 20.2% of all UI recipient respondents (or approximately two-thirds of UI recipient respondents who indicate reliance on credit card borrowing alone) specify that they would rely solely on credit card borrowing and would pay the balance in full on the next credit card statement.²⁴³ A similar portion of these respondents who rely on at least some credit card borrowing, among other sources, specify the same response. Only 10.1% of these respondents indicate they would rely solely on credit card borrowing that would accrue interest and only 19.3% would rely on any credit card borrowing that would accrue interest.²⁴⁴ Thus, counter to Dr. East’s assertion, checking/savings accounts or cash (45.1%), not credit card borrowing that would be paid off over time (19.3%), was the most common way respondents indicate they would deal with an unexpected \$400 expense. In total, over 60% of respondents indicate they would rely on only checking/savings accounts or cash, borrowing from friends and family, credit card borrowing paid off in full at the next statement, or some combination thereof.²⁴⁵ These results indicate credit card borrowing (at least in a manner that carries a cost of borrowing at the credit card rate) is far from being the most likely method of financing that UI recipients would turn to.

91. Furthermore, the data undermines Dr. Levine’s and Dr. East’s supposition that the credit card borrowing rate is likely a conservative metric as UI benefit recipients who lost access to those benefits would need to turn to “high-cost borrowing options, such as payday loans or pawn shops, to make ends meet.”²⁴⁶ Indeed, only 2% of respondents indicate any expected reliance on “using a payday loan, deposit advance, or overdraft” in the face of an unexpected \$400 expense.²⁴⁷ Collectively, 1.6% respond that they would rely solely on payday loans and/or selling something.²⁴⁸ This data shows the credit card borrowing rate, rather than being a conservative estimate of the cost of funds to replace delayed UI benefits, is likely an overestimate.²⁴⁹

²⁴³ Workpaper 7.

²⁴⁴ Workpaper 7.

²⁴⁵ Workpaper 7.

²⁴⁶ Levine Report, ¶ 40.

²⁴⁷ Workpaper 7; “Codebook for 2020 Survey of Household Economics and Decisionmaking,” *U.S. Federal Reserve*, available at https://www.federalreserve.gov/consumerscommunities/files/SHED_2020codebook.pdf.

²⁴⁸ Workpaper 7.

²⁴⁹ Of respondents, 9.9% indicate exclusively “I wouldn’t be able to pay for the expense right now.” 14.5% of respondents indicate this option as well as at least one other response. See Exhibit 3.

2. California UI Recipients in the HPS Data are More Likely to Exhibit Greater Reliance on Other Income Sources or Savings/Selling Assets Than on Credit Card Borrowing

92. Dr. East also examines HPS data to provide additional support for her opinion “that without UI, households must turn to expensive borrowing or else incur costs related to foregoing [certain] necessities.”²⁵⁰ HPS is a nationwide survey conducted by the U.S. Census Bureau to “collect[] data to measure how emergent issues are impacting U.S. households from a social and economic perspective.”²⁵¹ Dr. East uses HPS data to conclude “about 69% of UI recipients in California in 2020 reported that they used the UI benefits to cover their spending needs.”²⁵² This statistic, however, only captures a single dimension of the information available in this survey’s responses regarding how households meet their spending needs. By focusing only on this component, Dr. East mischaracterizes the reliance of UI recipients on UI benefits to fund their spending.

93. In her analysis of HPS data, Dr. East analyzes UI recipient respondents in California who self-identified sources of funds to meet spending needs in the past 7 days.²⁵³ Respondents were able to select from a set of answer options and were instructed to select all responses that applied. Using the same sample of respondents as identified by Dr. East in her report,²⁵⁴ I analyze the responses received in Exhibit 4 below.

²⁵⁰ East Report, ¶ 24.

²⁵¹ “About the Household Pulse Survey,” *U.S. Census Bureau*, January 23, 2025, available at <https://www.census.gov/programs-surveys/household-pulse-survey/about.html>.

²⁵² East Report, ¶ 26.

²⁵³ The survey question read: “Thinking about your experience in the last 7 days, which of the following did you or your household members use to meet your spending needs? Select all that apply.” See “Household Pulse Survey Public Use File (PUF),” *U.S. Census Bureau*, February 11, 2025, available at <https://www.census.gov/programs-surveys/household-pulse-survey/data/datasets.2020.html#list-tab-1264157801>.

²⁵⁴ Dr. East filters her sample of respondents using the following criteria: the respondent had to have marked yes to receiving UI in 2020, the respondent had to mark California as his/her state of residence, and the respondent had to have provided a response to the question being analyzed. After filtering to these criteria, for this HPS Survey question, Dr. East analyzed a sample of 9,458 respondents. See East Report Backup Materials.

Exhibit 4. HPS Survey UI Recipient Respondents’ Sources of Funds.

Response Option	Percent of Respondents Who Selected Option	Percent of Respondents Who Selected Only This Option
Regular income sources like those received before the pandemic	40.4%	9.9%
Money from savings or selling assets	40.6%	1.8%
Borrowing from friends or family	20.2%	1.4%
Stimulus (economic impact) payment	35.8%	1.3%
Supplemental Nutrition Assistance Program (SNAP)	10.1%	0.2%
Unemployment insurance (UI) benefit payments	69.1%	8.0%
Money saved from deferred or forgiven payments (to meet your spending needs)	7.6%	0.3%
Credit cards or loans	37.0%	2.3%
No Response	1.8%	1.8%
Total Number of Unique Respondents	9,458	2,413

Source: Household Pulse Survey 2020

Note: The percentages are weighted based on the survey weight associated with each respondent. The weighting adjusts for the differences between respondents and nonrespondents based on each respondent's sampling area. This weighting methodology is consistent with the weighting methodology employed by Dr. East.

94. Over 40% of California UI recipients reported relying on “regular income sources like those received before the pandemic,” over 40% reported using money from savings or selling assets, over 20% reported borrowing from friends or family, and over 35% reported using the stimulus (economic impact) payment.²⁵⁵ Approximately 82% of California UI recipients relied on one or more of the aforementioned sources to fund at least some portion of spending.²⁵⁶ Indeed, 18% indicated relying solely on these sources of funding.²⁵⁷ By contrast, only 37% of these respondents reported using *any* credit card borrowing or loans to meet their spending needs and 2.3% relied *only* on credit card or loans. I note again that use of credit card borrowing does not necessarily incur a borrowing cost if the cardholder doesn’t carry a balance between billing cycles.

²⁵⁵ Exhibit 4.

²⁵⁶ See Workpaper 8.

²⁵⁷ See Workpaper 8. Additionally, only 8% of UI recipient respondents reported relying solely on UI benefit payments. 61% of California UI recipients relied on at least one additional funding source in addition to UI. See Workpapers 9.

As discussed in Section V.C., these cardholders are termed “revolvers,” and according to the Consumer Financial Protection Bureau’s 2020 Consumer Credit Market Report, on which Dr. East relies, “[o]ver the past two years [2019–2020], a decreasing share of general purpose accounts revolved a balance from one month to the next,” and this holds true “for every credit tier except prime.”²⁵⁸

95. The above figures indicate respondents had sources of funds not just limited to UI benefits or credit card borrowing. One major source of capital during unemployment is a spouse. Academic literature finds UI is less important to consumption smoothing for married households with two income earners than it is to single households because married households can rely on the family as “a better insurance device than the publicly provided unemployment insurance program.”²⁵⁹ In the HPS data, 44% of UI recipients in California in 2020 reported being married,²⁶⁰ indicating that almost half of UI recipients in California potentially had a spouse’s income (or UI benefits) to aid in consumption smoothing during unemployment. In fact, 39% of California UI recipients in the HPS data also indicated that more than one household member received UI benefits since March 13, 2020.²⁶¹ Thus, like respondents, many proposed class members would have had other household members receiving their own wage or UI benefit income.²⁶² This further emphasizes that UI benefit recipients in California likely had multiple sources of funding for their spending and did not rely only nor primarily on credit card borrowing.

3. SIPP Data Reveals Many Proposed Class Members Likely Had Sufficient Savings to Cover the Typical Total Claims Amount

96. Dr. East uses SIPP data to support her opinion that “the vast majority of UI recipients in California between 2020 and 2021 [were] unable to cover their expenses if they suddenly lose access to UI benefits.”²⁶³ SIPP is a survey conducted by the U.S. Census Bureau which “provides

²⁵⁸ “The Consumer Credit Card Market,” *U.S. Bureau of Consumer Financial Protection*, September 2021, p. 33, available at https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2021.pdf.

²⁵⁹ Choi, Sekyu, and Arnau Valladares-Esteban, “On Households and Unemployment Insurance,” *Quantitative Economics*, Volume 11, 2020, pp. 437–469, p. 459, available at <https://onlinelibrary.wiley.com/doi/epdf/10.3982/QE865>.

²⁶⁰ Workpaper 10.

²⁶¹ Workpaper 11.

²⁶² HPS data shows that 17% of respondents who were married also reported more than one household member received UI benefits since March 13, 2020. See Workpaper 12.

²⁶³ East Report, ¶ 20.

comprehensive information on the dynamics of income, employment, household composition, and government program participation.”²⁶⁴ Dr. East uses this data to estimate financial savings for California recipients before receiving UI benefits and after receiving stimulus payments.²⁶⁵ Her estimate, however, incorrectly specifies the liquidity of UI recipients, especially during the pandemic, and, therefore she underestimates their financial resources.

97. Dr. East relies on “the household’s net liquid wealth as a percentage of . . . monthly income” as a measure of personal savings to, ultimately, conclude UI recipients could not have sustained a loss of UI benefits without utilizing some form of borrowing. “Net liquid household wealth,”²⁶⁶ which she constructs using data captured in SIPP fields, purportedly measures the savings of UI benefit recipients in California during the pandemic.²⁶⁷ As I note in Section VI.A, pre-pandemic net liquid wealth metrics ignore the income and wealth improvements brought about by pandemic stimulus and expansions to government support programs.

98. Setting aside that this calculation ignores likely significant wealth impacts stemming from pandemic stimulus, consideration of net liquid household wealth alone, which subtracts unsecured debt from liquid assets, blurs important distinctions between the composition of net liquid household wealth.²⁶⁸ When using the net liquid household wealth metric, households with zero

²⁶⁴ “Survey of Income and Program Participation (SIPP),” *U.S. Census Bureau*, October 23, 2024, available at <https://www.census.gov/programs-surveys/sipp.html>.

²⁶⁵ Dr. East examines SIPP respondents in the sample starting in 2018. She filters her sample to California UI recipients who started receiving UI either in 2020 or 2021. She further limits this sample to include only individuals who indicate they are the householder, so as not to double count a household in the sample, and to those with California indicated as their home state. After this filtering, Dr. East’s sample includes 8,133 observations; however, her analysis-level samples vary as a result of data-missingness. Depending on the field being analyzed, Dr. East’s sample of California UI recipients ranges from 809 observations to 5,468 observations. *See* East Report Backup Materials, “01_b_CleanSIPP.do” and “01_c_SIPPAnalysis.do”.

²⁶⁶ Note that Dr. East uses a variety of abbreviated terms to seemingly refer to this concept, including “net wealth,” “net household wealth,” “net worth.” I will use “net liquid household wealth” throughout the remainder of my report. *See* East Report, ¶¶ 17–20, 22, 23.

²⁶⁷ Dr. East calculates net liquid household wealth by subtracting unsecured debt from liquid assets. The unsecured debt figure for each household comes from the ‘THDEBT_USEC’ field, which is comprised of 4 components: credit card debt (‘TDEBT_CC’), student loan debt (‘TDEBT_ED’), other debt (‘TDEBT_OT’), and medical debt (‘TMED_AMT’). Other debt “Includes loans obtained through a bank/credit union, money owed to private individuals, debt held against mutual funds or stocks, and all other debts.” *See* Briana Sullivan and Shomik Ghosh, “Wealth of Households: 2022,” *U.S. Census Bureau*, November 2024, available at <https://www2.census.gov/library/publications/2024/demo/p70br-202.pdf>. The person-level values for these fields are aggregated to a household level and then combined to create the ‘THDEBT_USEC’ field. *See* East Report Backup Materials, “01_b_CleanSIPP.do”.

²⁶⁸ When measuring household consumption responses to the expiration of UI benefits as a function of liquid wealth, researchers often do not remove unsecured debt from liquid assets. *See* Ganong and Noel (2019); Rothstein and Valletta (2017). For example, Ganong and Noel (2019) find a “key determinant of the magnitude of spending drop is a household’s assets prior to the onset of unemployment.” *See* Ganong and Noel (2019), p. 2397.

liquid assets and zero unsecured debt appear exactly the same as households with positive liquid assets and an equal amount of unsecured debt. As an illustrative example, the net liquid household wealth metric cannot distinguish between the two following households: 1) a household with \$50 in net liquid household wealth resulting from \$75 in cash as its only source of liquid assets and \$25 in credit card debt; and 2) a household with \$50 in net liquid household wealth resulting from \$10,000 in savings and \$9,950 in outstanding student loans). In this same vein, Dr. East’s calculation of net liquid household wealth fails to distinguish between households who have low net liquid household wealth because of relatively large student loan debt (the entirety of which is subtracted from liquid assets in her calculations despite the much smaller impact on liquidity at the monthly level²⁶⁹) and households who have the same low net liquid household wealth because of low levels of liquid assets. Furthermore, even sources Dr. East cites to in her report do not count educational debt in their calculation of total spending.²⁷⁰

99. By comparing her net liquid wealth metric to monthly household income she distorts the “readily available wealth” of households with student loan debt because households only have to pay a fraction of their total student loan balance each month and, further, during the pandemic federal student loan debt was frozen.²⁷¹ Using the previous example, the second household may be making timely monthly payments of \$106 (in accordance with a 10-year payoff plan of \$9,950 of student loan debt, at 5% interest).²⁷² Compared against \$10,000 in savings, the low net liquid household wealth of this household fails to present a complete financial picture—this household has more means to cover an unexpected expense than is represented by the \$25 in net liquid household wealth metric.

²⁶⁹ The field associated with educational debt is “THDEBT_ED,” which the 2021 SIPP Data Dictionary defines as the “household-level sum of value of assets held at financial institutions.” See 2021 SIPP Data Dictionary.

²⁷⁰ See, e.g., Ganong et al. (2024), p. 2905 (“Our preferred total spending measure sums spending on Chase credit cards, Chase debit cards, cash withdrawals, paper checks, and various electronic payments. This measure excludes debt payments on mortgages, cars, student loans, and credit cards, as well as transfers to other accounts.”).

²⁷¹ André Victor D. Luduvic and Anaya Truss-Williams, “How Insured Are Workers Against Unemployment? Unemployment Insurance and the Distribution of Liquid Wealth,” *Federal Reserve Bank of Cleveland*, October 15, 2024, available at <https://www.clevelandfed.org/publications/economic-commentary/2024/ec-202416-unemployment-insurance-and-distribution-of-liquid-wealth> (“Luduvic and Truss-Williams (2024)”) (“We consider net liquid wealth, or readily available wealth, assets such as funds in checking accounts, equity in stocks and mutual funds, equity in vehicles, and so on. To make it “net,” we subtract the value of total outstanding debt in credit cards to account for short-term debt that affects immediate liquidity.”).

²⁷² “Student Loan Calculator,” *Sallie Mae*, available at <https://www.salliemae.com/college-planning/tools/student-loan-repayment-calculator/>.

100. Further, as discussed above in Section V.B.4., federal student loan debt was frozen during the pandemic through 2023.²⁷³ This likely represents a large portion of the student loan debt that reduces Dr. East’s calculation of net liquid household wealth of UI benefit recipients in California during the pandemic. In 2020 and 2021, federal student loan debt was over 90% of all U.S. student loan debt.²⁷⁴ Additionally, in 2020, Californian federal student loan debt was almost 10% of the total U.S. federal student loan debt.²⁷⁵ As a result, it is more likely that no student debt repayments needed to be made for many proposed class members during the proposed class period.

101. To properly capture the net liquid household wealth that reflects the savings amount California UI benefit recipients, such as the proposed class members, could rely on (as a percent of income), I recalculate Dr. East’s statistics removing educational debt (making no other changes to her methodology).²⁷⁶ Based on this approach, the median California UI recipient had 41.4% of monthly household income in net liquid household wealth and the average California UI recipient had 254.7%,²⁷⁷ compared to Dr. East’s calculations 7.2% and 219.7% for the median and mean, respectively.

102. Aside from this, even using the metrics as calculated in Dr. East’s report, there is no reason to conclude all or even most of UI recipients would turn to credit card borrowing to fund their spending. For example, East states, “44% of those who receive UI had negative net wealth before they received UI.”²⁷⁸ Thus over half of the sample (56%) had positive net liquid household wealth prior to receiving UI, meaning most households who received UI had some form of savings they

²⁷³ Jacob Jackson, “After a Three-Year Hiatus, Californians Will Resume Student Loan Payments Soon,” *Public Policy Institute of California*, August 2, 2023, available at <https://www.ppic.org/blog/after-a-three-year-hiatus-californians-will-resume-student-loan-payments-soon/> (...ended the freeze on payments and interest accrual that had begun in March 2020.”).

²⁷⁴ Melanie Hanson, “Student Loan Debt Statistics,” *Education Data Initiative*, March 16, 2025, available at <https://educationdata.org/student-loan-debt-statistics> (“Federal student loan debt represents 92.2% of all student loan debt; 7.79% of student loan debt is private, including \$29.3 billion in refinance loans.”).

²⁷⁵ Jacob Jackson and Darriya Starr, “Student Loan Debt in California,” *Public Policy Institute of California*, June 2023, available at <https://www.ppic.org/publication/student-loan-debt-in-california/>. I divide California federal student loan debt by all U.S. federal student loan debt: \$142 billion / \$1.6 trillion = 8.875%.

²⁷⁶ In the sample, student loan debt ranges from a minimum of \$0 to a maximum of \$290,178, with median and mean values of \$0] and \$9,935, respectively. See Workpaper 13.

²⁷⁷ See East Report Backup Materials. Dr. East’s statistics adjusted for student loan debt are provided in Workpaper 14.

²⁷⁸ East Report, ¶ 18.

could use to fund, or partially fund, a temporary delay of UI funds.²⁷⁹ As previously described, the proposed class members would likely not have had to draw down on these savings prior to the temporarily lost access to the portion of their benefits because of the pandemic stimulus and enhanced benefits payments starting in April 2020. Dr. East calculates, “67% of UI recipients have household net wealth under 100% of household monthly income” and “79% have less than three months’ worth of income in savings,”²⁸⁰ indicating that roughly one-third of UI recipients could fund their spending for a portion of the month and over one-fifth could fund their spending up to three months. In the previous section, I calculated that on average, the median claim amount represented approximately 53% of average pandemic level monthly UI benefit income in California.²⁸¹ This suggests proposed class members would not have needed one month, much less three, of income in savings to cover the delayed access to a portion of their benefits.

103. Finally, Dr. East’s calculations do not capture the full scope of the SIPP data. For example, she states, “I calculated that even after receiving stimulus payments, most UI recipients in California still had less than one month’s worth of income in net household wealth (calculated in the SIPP).”²⁸² In this case, “most” refers to 55% of UI recipients in California, indicating that almost half (45%) of UI recipients had at least one month’s worth of income in net household wealth after receiving stimulus payments. Furthermore, almost 30% of UI recipients in California had at least three months’ worth of income in net household wealth after receiving stimulus payments.²⁸³ Again, this undermines her conclusion that the proposed class members would largely need to rely on credit card borrowing to fund spending if UI benefits were delayed.

104. While Dr. East concludes UI recipients in California “had low levels of savings and were thus unable to maintain consumption at pre-job-loss levels,”²⁸⁴ I do not find this to be the case. After removing educational debt from net liquid household wealth, fully incorporating the effects of the pandemic stimulus, and considering the survey data regarding the ability and means by which Americans, Californians, and UI recipients in particular, deal with unexpected expenses,

²⁷⁹ When making the adjustment to eliminate student loan debt from the net liquid household wealth metric, the percent of California respondents who were UI recipients in 2020–2021 who had positive net liquid household wealth was 68% (or 100% - 32% with negative net liquid household wealth). *See* Workpaper 14.

²⁸⁰ East Report, ¶ 20.

²⁸¹ Exhibit 2.

²⁸² East Report, ¶ 23.

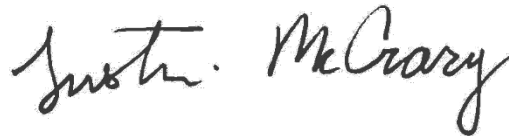
²⁸³ *See* Workpaper 15.

²⁸⁴ East Report, ¶ 18.

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the results indicate that many proposed class members would have been able to cover the delayed access to their UI benefits through methods that are lower, or zero, cost. Therefore, far from being conservative, the credit card borrowing rates proposed by Dr. Levine and Dr. East, 15.9% and 20.8% respectively, and the 20% used by Mr. Regan to calculate damages, represents an inflated cost of the temporary inability to access a portion of UI benefits for the proposed class members.

Executed this 4th day of April, 2025

A handwritten signature in black ink that reads "Justin. McCrary". The signature is written in a cursive, slightly informal style.

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Current Academic Appointments

2018– Columbia University
Paul J. Evanson Professor of Law
2018– Fellow, Program in the Law and Economics of Capital Markets
2012– National Bureau of Economic Research
Faculty Research Associate

Past Academic Appointments

2008–19 National Bureau of Economic Research
Co-director, Crime Working Group
2006–12 Faculty Research Fellow
2014–17 University of California, Berkeley
Director, Social Sciences Data Laboratory (D-Lab)
2010–18 Professor of Law
2008–10 Assistant Professor of Law
Fall 2017 Columbia University
Samuel Rubin Visiting Professor of Law
2003–07 University of Michigan
Assistant Professor, Gerald R. Ford School of Public Policy, and
Assistant Professor, Department of Economics (courtesy)

Government and Public Service

2024– *Journal of Law and Economics*
Member, Board of Editors
2023– Rosalyn Yalow Charter School
Member, Board of Directors
2024– Member, Finance Committee
2023–24 California Law Revision Commission
Consultant, Study of Antitrust Law
2022 Committee on National Statistics
Reviewer, National Academies of Sciences, Engineering, and Medicine
2022– Securities and Exchange Commission
Signatory, Intergovernmental Personnel Agreement
2013–14 European Central Bank (Banco de España)
Economist
2000–16 Equal Employment Opportunity Commission
Signatory, Intergovernmental Personnel Agreement
2011–12 California Department of Justice
Consultant
1996–98 Federal Reserve Bank of New York
Assistant Economist

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Ph.D. Economics, University of California, Berkeley, 2003

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Hobbies

Chess, Squash, Classical guitar

Scholarship on Competition

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Antitrust Magazine Online, June 2023

Measuring Benchmark Damages in Antitrust Litigation (with Daniel L. Rubinfeld)
Journal of Econometric Methods, Volume 3, January 2014

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The Impact of the Coronavirus Lockdown on Domestic Violence (with Sarath Sanga)

American Law and Economics Review, Volume 23, Issue 1, Spring 2021

Why We Need Police (with Deepak Premkumar)

Chapter 3 in *The Cambridge Handbook of Policing in the United States*, Tamara Rice Lave and Eric Jr. Miller, eds., Cambridge University Press, June 2019

Are U.S. Cities Underpoliced? Theory and Evidence (with Aaron Chalfin)

Review of Economics and Statistics, Volume 100, Issue 1, March 2018, 167–186

Criminal Deterrence: A Review of the Literature (with Aaron Chalfin)

Journal of Economic Literature, Volume 55, Number 1, March 2017, 5–48 (lead article)

The Deterrence Effect of Prison: Dynamic Theory and Evidence (with David S. Lee)

Advances in Econometrics, Volume 38, 2017, editors Matias D. Cattaneo and Juan Carlos Escanciano
2018 Emerald Literati Award, Outstanding Author Contribution

Do Sexually Violent Predator Laws Violate Double Jeopardy or Substantive Due Process: An Empirical Inquiry (with Tamara Lave)

Brooklyn Law Review, Volume 78, Summer 2013, Number 4, 1391–1439

General Equilibrium Effects of Prison on Crime: Evidence From International Comparisons (with Sarath Sanga)

Cato Papers on Public Policy, Volume 2, 2012

Controlling Crime: Strategies and Tradeoffs (co-edited with Phil Cook and Jens Ludwig), Chicago: University of Chicago Press, 2011.

Scholarship on Labor Economics

Unmarked? Criminal Record Clearing and Employment Outcomes (with Jeffrey Selbin (lead author) and Joshua Epstein)

Journal of Criminal Law and Criminology, Volume 108, Number 1, 2017 (lead article)

The Effect of Female Education on Fertility and Infant Health: Evidence from School Entry Laws Using Exact Date of Birth (with Heather Royer)

American Economic Review, Volume 101, Number 1, February 2011

Comment on “Free to Punish? The American Dream and the Harsh Treatment of Criminals”, by Rafael di Tella and Juan Dubra

Cato Papers on Public Policy, Volume 1, 2011

Dynamic Perspectives on Crime

in *Handbook of the Economics of Crime*, Chapter 4, Edward Elgar, 2010

The Effect of Court-Ordered Hiring Quotas on the Composition and Quality of Police

American Economic Review, Volume 97, Number 1, March 2007

Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime: Comment

American Economic Review, Volume 92, Number 4, September 2002

Scholarship on Intellectual Property

A Reconsideration of Copyright’s Term (with Kristelia A. Garcia)

Alabama Law Review, Volume 71, Issue 2, 2019

Copyright and Economic Viability: Evidence from the Music Industry (with Kristelia A. Garcia and James Hicks)

Journal of Empirical Legal Studies, Volume 17, Issue 4, December 2020

Scholarship on Monetary Policy

Following Germany’s Lead: Using International Monetary Linkages to Estimate the Effect of Monetary Policy on the Economy (with Julian di Giovanni and Till von Wachter)

Review of Economics and Statistics, Volume 91, Number 2, May 2009

Other Scholarship

The Ph.D. Rises in American Law Schools, 1960-2011: What Does It Mean for Legal Education? (with Joy Milligan and James Phillips)

Journal of Legal Education, Volume 65, Number 543, Spring 2016

Referee

Econometrica

American Economic Review

Quarterly Journal of Economics

Journal of Political Economy

Review of Economic Studies

Journal of Econometrics

Journal of Economic Literature

Review of Economics and Statistics

Journal of the American Statistical Association

American Economic Journal

Advances in Econometrics

American Law and Economics Review

International Law and Economics Review

Journal of Labor Economics

Journal of Econometric Methods

Industrial and Labor Relations Review

Journal of Law and Economics

Journal of Empirical Legal Studies

Journal of Urban Economics

Journal of Quantitative Criminology

American Political Science Review

American Sociological Review

Stanford Law Review

Yale Law Journal

Columbia Law Review

Other Activities

2023– Member, Board of Directors, WayRay AG

2019–21 Member, Board of Directors, Plectica, LLC

2017–19 Member, Board of Directors, American Law and Economics Association

2007–19 Co-Director (with Phil Cook and Jens Ludwig), *Crime Working Group*, National Bureau of Economic Research

2009–14 Co-Director, *Law and Economics Program*, University of California, Berkeley

Courses Taught

Columbia

2023-24 L6293: Antitrust and Trade Regulation (Fall); L8856: Antitrust at Trial (Fall); L6916: Litigation, Economics, and Statistics (Spring); L6231: Corporations (Spring)

2022-23 L6293: Antitrust and Trade Regulation (Spring); L6916: Litigation, Economics, and Statistics (Spring)

2021-22 L6231: Corporations (Fall); L6916: Litigation, Economics, and Statistics (Fall); L6293: Antitrust and Trade Regulation (Spring)

2020-21 L6293: Antitrust and Trade Regulation (Fall); L6916: Litigation, Economics, and Statistics (Fall); L6231: Corporations (Spring)

2019-20 L6293: Antitrust and Trade Regulation (Fall); L6916: Litigation, Economics, and Statistics (Fall)

2018-19 L6916: Litigation, Economics, and Statistics (Fall); L6231: Corporations (Spring)

2017-18 L6231: Corporations (Fall)

Berkeley

2016-17 Law 244.4: Litigation and Statistics (Fall); Law 216: Law and Economics Workshop (Fall); Law 218.6: Law and Economics of Discrimination (Fall)

2015-16 Law 250: Business Associations (Fall); Law 244.4: Litigation and Statistics (Fall); Letters and Science 39D: Race, Policing, and Data Science (Fall)

2014-15 Law 250: Business Associations (Fall); Law 250S: Business Associations (Summer)

2013-14 Law 250S: Business Associations (Summer)

2012-13 Law 250: Business Associations (Fall); Law 250S: Business Associations (Summer); Law 209.3: Introductory Statistics (Fall)

2011-12 Law 250: Business Associations (Fall); Law 250S: Business Associations (Summer); Law 209.3: Introductory Statistics (Fall); Law 251.31: Introduction to Law, Economics, and Business (Spring); Legal Studies 145: Law and Economics I (undergraduate)

2010-11 Law 250: Business Associations (Fall); Law 250S: Business Associations (Summer); Law 216: Law and Economics Workshop (Fall and Spring); Legal Studies 145: Law and Economics I (undergraduate); Law 209.6: Topic in Quantitative Methods (JSP); Econ 250C: Labor Economics (graduate, shared course with 209.6)

2009-10 Law 216: Law and Economics Workshop (Fall and Spring); Law 209.32: Quantitative Methods II (JSP)

2008-09 Legal Studies 145: Law and Economics I (undergraduate); Law 209.3: Quantitative Methods I (JSP); Law 209.32: Quantitative Methods II (JSP)

2007-08 Legal Studies 145: Law and Economics I (undergraduate); Law 209.3: Quantitative Methods I (JSP)

Michigan

Introduction to Quantitative Methods (policy), First Econometrics Field Course (economics), Advanced Economic Theory (policy)

Grants and Fellowships

2007–2010 NIH, Constructive Proposals for Dealing With Attrition (with John DiNardo)

2009 Committee on Research, Junior Faculty Research Grant, UC Berkeley

2006–2009 NIH, The Effect of Female Education on Fertility and Infant Health (with Heather Royer, Grant # R03 HD051713)

2006–2011 NSF, New Instrumental Variables Estimates of the Effects of Schooling and Military Service: Empirical Strategies Using Non-Public-Use Data (with Josh Angrist and Stacey Chen)

2005 RWJ Foundation Health and Society Scholars Program, Small Grant Program

2004 Rackham Interdisciplinary Grant, University of Michigan

2004 CLOSUP Grant, University of Michigan

2004 National Poverty Center Grant, University of Michigan

2002–2003 Chancellor's Dissertation Year Fellowship, UC Berkeley

Presentations

2023–2024 Columbia University, Department of Economics; Columbia University, School of Law

2022–2023 Northwestern University, School of Law

2018–2019 Columbia University, School of Law; Conference on Empirical Legal Studies, University of Michigan

2017–2018 Columbia University, School of Law; Georgetown University, School of Law

2016–2017 George Mason University, School of Law; University of Michigan, Economics Department (Summer, Fall); Equities Leaders Summit; University of Zürich, Department of Economics; ETH (Swiss Federal Institute of Technology) Zürich, Law and Economics; Northwestern University, School of Law; Duke University, School of Law; Duke University, Information Initiative

2015–2016 Goldman Sachs; University of California, Berkeley, School of Law; University of Virginia, School of Law; University of California, Irvine; Equal Employment Opportunity Commission; National Bureau of Economic Research, Summer Institute

2014–2015 Duke University; Federal Reserve Bank of New York; Equal Employment Opportunity Commission (EEO-DataNet); American Law and Economics Association (discussant); New York University (NYU / Penn Law and Finance Conference); National Bureau of Economic Research, Summer Institute (discussant)

2013–2014 University of Southern California, School of Law; London School of Economics; Bank of Spain; CEMFI; Carlos III; University of Zaragoza; University of Rotterdam; University of Maastricht; University of Göteborg

2012–2013 University of California, Los Angeles, School of Law

2011–2012 University of Oregon, Department of Economics; University of British Columbia, Department of Economics; Brown University, Department of Economics; University of Rochester, Department of Economics; Cato Institute; National Bureau of Economic Research, Summer Institute; Harvard Law School

2010–2011 Northwestern, School of Law; University of Wisconsin, Department of Economics; Brookings Institution; Cato Institute

- 2009–2010 University of Chicago, School of Law; Cornell University, School of Law and Department of Economics; University of Michigan, School of Law and Department of Economics; University of Virginia, School of Law, Olin Conference
- 2008–2009 University of California, Los Angeles, School of Law; University of Arizona, School of Law and Department of Economics; Stanford University, School of Law and Department of Economics; University of Miami, Department of Economics
- 2007–2008 Northwestern University, School of Law; University of Michigan, Department of Economics; National Bureau of Economic Research, Summer Institute; Florida State University
- Prior to 2007–2008, presentations are at departments of economics, unless otherwise noted*
- 2006–2007 University of Michigan, Program in Survey Methodology; Public Policy Institute of California; Brown University
- 2005–2006 University of Michigan; University of California, Irvine; University of California, Santa Barbara; University of California, Santa Cruz; California State University, Long Beach; University of Western Ontario; University of Toronto; University of Illinois, Chicago; University of Chicago, Graduate School of Business; APPAM; University of Florida; University of California, Berkeley, School of Law; Princeton University; RAND; Hebrew University (conference in honor of Reuben Gronau); Stanford University, University of Wisconsin, Madison; Northwestern University; Crime and Economics Summer Workshop, University of Maryland
- 2004–2005 Federal Reserve Bank of Chicago; University of Illinois, Urbana-Champaign; University of Michigan, William Davidson Institute; University of Maryland; Urban Institute; American Economics Association Meetings; City University of New York Health Economics Seminar; University of Wisconsin, Madison; Stanford University; University of California, Davis; University of California, Berkeley, Labor Lunch; NBER Summer Institute, Education/Labor Studies
- 2003–2004 University of Michigan; APPAM; NBER Labor Studies Meeting (Fall); Massachusetts Institute of Technology; Harvard University, Kennedy School; University of California, Los Angeles; University of California, San Diego; Columbia University; University of California, Berkeley; NBER Summer Institute, Monetary Policy; NBER Summer Institute, Labor Studies
- 2002–2003 University of California, San Diego; University of California, Los Angeles; RAND Institute; University of Chicago, Graduate School of Business; University of Chicago, Harris School of Public Policy; University of Michigan, Ford School of Public Policy; Columbia University; Dartmouth College; Federal Reserve Bank of New York; Boston University

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Prior Testimony Experience

The Collection LLC v Porsche Cars North America

Circuit Court of the 11th Judicial Circuit, Miami-Dade County

Antitrust case

Testimony regarding local market demand and a new proposed Porsche dealership

Retained through Porsche

Deposed on March 27, 2025

Report filed on February 3, 2025

In re Cattle and Beef Antitrust Litigation

U.S. District Court for the District of Minnesota

Antitrust case

Testimony regarding liability, class certification, regression methodology, and exchange and direct and indirect seller claimed damages

Retained through the joint defense group

Deposed on March 19, 2025 and March 20, 2025

Class certification report filed on January 24, 2025

MLRN LLC v U.S. Bank National Association

Supreme Court of the State of New York

Mortgage-backed securities case (servicing)

Testimony regarding sampling and statistical methods

Retained through U.S. Bank

Deposed on March 14, 2025

Report filed on February 14, 2025

Target v Visa; 7-Eleven v Visa

U.S. District Court for the Southern District of New York

Antitrust case

Testimony regarding liability, two-sided markets, market power, and credit and debit card payment systems

Retained through Mastercard

Deposed on December 19, 2024

Report filed on October 1, 2024

Noe Rosales, et al. v Valve Corporation
American Arbitration Association

Antitrust case

Testimony regarding market definition, market power, and competitive effects in video game distribution

Retained through Valve

Testified at arbitration hearing on December 6 and 9, 2024

Federal Trade Commission, et al. v The Kroger Company and Albertsons Companies, Inc.
United States District Court for the District of Oregon

§13(b) merger case

Testimony regarding labor market definition (product and geographic), market power, merger effects, and bargaining theory

Retained through Kroger

Trial testimony on September 12, 2024

Deposed on July 18, 2024

Report filed on July 1, 2024

Favell et al. v University of Southern California
United States District Court of the Central District of California

Putative class action alleging tuition overpayment

Testimony regarding damages methodologies and conjoint analysis

Retained through USC

Deposed on September 2, 2024

Report filed on August 22, 2024

IKB International S.A. in Liquidation and IKB Deutsche Industriebank AG v U.S. Bank N.A.
Supreme Court of the State of New York, County of New York

Mortgage-backed securities case (servicing)

Testimony regarding sampling and statistical methods

Retained through U.S. Bank

Deposed on July 23, 2024

Report filed on June 28, 2024

Attorney General for the Commonwealth of Massachusetts v Uber Technologies, Inc. and Lyft, Inc.
Superior Court of the Commonwealth of Massachusetts for the County of Suffolk

Alleged misclassification of employees as independent contractors

Testimony regarding two-sided markets and platform companies

Retained through Uber Technologies, Inc.

Trial testimony on May 31, 2024

Deposed on January 27, 2024 (via video)

Report filed on October 13, 2023

IKB International S.A. in Liquidation and IKB Deutsche Industriebank AG v Morgan Stanley, et al.
Supreme Court of the State of New York, County of New York

Mortgage-backed securities case (servicing)

Testimony regarding sampling and statistical methods

Retained through Morgan Stanley

Deposed on May 15, 2024

Report filed on September 30, 2022

State of New York ex rel., Edelweiss Fund, LLC v JP Morgan Chase & Co., et al.

Supreme Court of State of New York, County of New York

Qui tam action alleging collusion and/or coordination on the part of remarketing agents and thus municipal government overpayment for variable rate demand obligation (VRDO) interest rates

Testimony regarding cartel theory, economic incentives, market power, barriers to entry, and random versus selected samples and bootstrap methodologies

Retained through the joint defense group

Deposed on May 2, 2024

Report filed on March 15, 2024

Mayor and City Council of Baltimore v Purdue Pharma L.P., et al.

Circuit Court for Baltimore City

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, abatement plan, damages

Retained through Janssen

Deposed on April 26, 2024

Report filed on February 23, 2024

Chuba Hubbard et al. v NCAA et al.

United States District Court for the Northern District of California

Putative class action antitrust labor case

Testimony regarding damages methodologies and causation

Retained through NCAA

Deposed on April 15, 2024

Report filed on March 27, 2024

Palm Beach Tanning, Inc., et al., v Sunless, Inc.

United States District Court for the Northern District of Ohio

Intellectual property and antitrust dispute

Testimony regarding antitrust economics and damages methodologies

Retained through Sunless

Deposed on February 21, 2024

Report filed on January 16, 2024

Richard Dennis, Michael Glass, and Port 22, LLC v The Andersons, Inc. and Cargill, Inc.
United States District Court for the Northern District of Illinois, Eastern Division

Putative class action antitrust finance case (wheat market)

Testimony regarding antitrust economics and damages methodologies, causation, inferential statistics, and commodities markets (physical, futures, options)

Retained through The Andersons and Cargill

Deposed on January 26, 2024

Report filed on December 20, 2023

The Collection v Holman North Miami and Porsche Cars North America
State of Florida, Division of Administrative Hearing

Proposed new car dealership case

Testimony regarding local market demand and a new proposed Porsche dealership

Retained through Porsche Cars North America

Deposed on January 17, 2024 (via video)

Deposed on January 11, 2024

Reply report filed on December 22, 2023

Report filed on November 11, 2023

Paul Orshan, et al. v Apple Inc.

United States District Court for the Northern District of California

Putative class action consumer products liability case

Testimony regarding the law and economics of damages

Retained through Apple, Inc.

Deposed on January 9, 2024

Deposed on June 8, 2022 (via video)

Report filed on May 17, 2022

Erica Frasco v Flo Health, Inc., Google, LLC, Facebook, Inc., AppsFlyer, Inc., and Flurry, Inc.

United States District Court for the Northern District of California

Putative class action data breach and privacy case

Testimony regarding liability and damages

Retained through Flurry, Inc.

Deposition on August 24, 2023 (via video)

Report filed on June 27, 2023

The DCH Health Care Authority v Purdue Pharma L.P.; Fort Payne Hospital Corporation v McKesson Corporation
Circuit Court for Conecuh County, Alabama

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, regression methodology

Retained through the Janssen Defendants

Supplemental Disclosure filed on July 5, 2023

Expert Disclosure filed on July 3, 2023

PennyMac Loan Services, LLC v Black Knight Servicing Technologies, LLC; Black Knight, Inc.
American Arbitration Association

Intellectual property and antitrust dispute
Testimony regarding damages
Retained through Black Knight
Testified at arbitration hearing on May 18, 2023
Deposition on December 8, 2022
Report filed on October 25, 2022

State of Illinois ex rel., Edelweiss Fund, LLC v JP Morgan Chase & Co., et al.
Circuit Court of Cook County, Illinois, County Department, Law Division

Qui tam action alleging collusion and/or coordination on the part of remarketing agents and thus municipal government overpayment for variable rate demand obligation (VRDO) interest rates
Testimony regarding cartel theory, economic incentives, market power, barriers to entry, and random versus selected samples and bootstrap methodologies
Retained through the joint defense group
Deposed on April 5, 2023
Report filed on February 6, 2023

National Fair Housing Alliance et al. v Deutsche Bank National Trust, as Trustee; Deutsche Bank Trust Company Americas, as Trustee; Ocwen Loan Servicing, LLC; and Altisource Solutions, Inc.
United States District Court for the Northern District of Illinois, Eastern Division

Housing maintenance discrimination
Testimony regarding causation, economics of housing market
Retained through Deutsche Bank, Ocwen, and Altisource
Deposed on March 31, 2023 (via video)
Declaration filed on February 28, 2023
Report filed on February 21, 2023

In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation
United States District Court for the Eastern District of New York

Antitrust case
Testimony regarding liability, two-sided markets, market power, and credit and debit card payment systems
Retained through Mastercard
Deposed on March 24, 2023
Reply Report filed on January 13, 2023
Report filed on September 30, 2022

Palmer, Piroumian, Cox, and Franchitt v Cognizant Technology Solutions Corporation and Cognizant Technology Solutions U.S. Corporation

United States District Court for the Central District of California

Putative class action employment discrimination case

Testimony regarding regression and statistical methodologies, the Yule-Simpson paradox and omitted variable bias, causation, personnel economics, self-selection, the economics of immigration, and damages methodologies

Retained through Cognizant

Deposed on January 23, 2023 (via video)

Deposed on July 5, 2022 (via video)

Report filed on June 10, 2022

In re: Broiler Chicken Grower Antitrust Litigation Haff Poultry, Inc., et al. v Tyson Foods, Inc., et al.

United States District Court for the Eastern District of Oklahoma

Putative class action antitrust monopsony case

Testimony regarding information sharing, no-poach allegations, causation, and damages estimation

Retained through Pilgrim's and Sanderson

Deposition on December 22, 2022

Report filed on November 18, 2022

Walter Peters v Apple Inc.

Superior Court for the State of California, County of Los Angeles

Putative class action consumer products liability case

Testimony regarding event study methodology, extent of unharmed class members, and statistics

Retained through Apple, Inc.

Deposed on September 2, 2022 (via video)

Report filed on July 26, 2022

National Fair Housing Alliance et al. v Bank of America, National Association; Bank of America Corp.; and Safeguard Properties Management

United States District Court for the District of Maryland

Housing maintenance discrimination

Testimony regarding causation, economics of housing market

Retained through Bank of America

Supplemental declaration filed on August 31, 2022

Deposed on February 28, 2022 (via video)

Supplemental report filed on February 14, 2022

Report filed on November 5, 2021

In re Foreign Exchange Benchmark Rates Antitrust Litigation

U.S. District Court for the Southern District of New York

Putative class action antitrust case

Testimony regarding liability, heterogeneity, trader communications, sampling, and regression

Retained through Credit Suisse

Declaration filed on August 26, 2022

Deposed on July 30, 2020 (via video)

Merits report filed on March 12, 2020

Deposed on January 17, 2019

Class certification report filed on October 25, 2018

Jessica Robinson, Stacey Jennings, and Priscilla McGowan v Jackson Hewitt, Inc. and Tax Services of America, Inc.

United States District Court for the District of New Jersey

Putative class action antitrust labor case

Testimony regarding the economics of franchising, general and specific human capital, and intrabrand restraints

Retained through Jackson Hewitt

Deposed on June 1, 2022

Report filed on April 25, 2022

City and County of San Francisco and the People of the State of California v Purdue Pharma L.P., et al.

United States District Court for the Northern District of California

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, regression methodology

Retained through Endo Pharmaceuticals Inc., Endo Health Solutions Inc., Par Pharmaceutical, Inc., Par Pharmaceutical Companies, Inc., and Endo International plc

Deposed on January 10, 2022 (via video)

Report filed on December 2, 2021

State of Florida v Purdue Pharma L.P. et al.

Circuit Court of the Sixth Judicial Circuit in and for Pasco County, West Pasco Division, New Port Richey, Florida

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, regression methodology

Retained through Endo Pharmaceuticals Inc. and Endo Health Solutions Inc.

Deposed on December 13, 2021 (via video)

Report filed on September 17, 2021

Sarah J. Hunter and David N. Youtz v Booz Allen Hamilton Holding Corporation
U.S. District Court for the Southern District of Ohio (Eastern Division)

Putative class action antitrust labor case

Testimony regarding heterogeneity of impact, incentives, contracting, damages models, and salary structure models

Retained through Booz Allen, Mission Essential Personnel, and CACI International

Live testimony in class certification hearing on October 22, 2021

Deposed on August 6, 2021 (via video)

Rebuttal merits report filed on July 15, 2021

Affirmative merits report filed on June 3, 2021

Deposed on April 12, 2021 (via video)

Class certification report filed on March 12, 2021

County of Dallas v Purdue Pharma L.P. et al.
(and *In re Texas Opioid Litigation*)

District Court, 116th Judicial District, Dallas County, Texas
(and District Court, 152nd Judicial District, Harris County, Texas)

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, regression methodology

Retained through Endo Pharmaceuticals Inc. and Endo Health Solutions Inc.

Deposed on September 20, 2021 (via video)

Report filed on July 30, 2021

Iowa Public Employees' Retirement System, et al. v Bank of America Corporation, et al.
U.S. District Court for the Southern District of New York

Putative class action antitrust group boycott case

Testimony regarding the stock lending market and heterogeneity of impact

Retained through Bank of America, Credit Suisse, Goldman Sachs, JP Morgan, Morgan Stanley, and UBS

Deposed on September 3, 2021 (via video)

Reply report filed on November 22, 2021

Class certification report filed on June 29, 2021

The State of Alabama v Purdue Pharma L.P. et al.
Circuit Court for Montgomery County, Alabama

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, regression methodology

Retained through Endo Pharmaceuticals Inc. and Endo Health Solutions Inc.

Deposed on August 10, 2021 (via video)

Report filed on July 29, 2021

The People of the State of California v Purdue Pharma L.P. et al.

Superior Court of the State of California, County of Orange

Prescription opioid medication litigation

Testimony regarding causation, economics of crime, regression methodology

Retained through Endo Pharmaceuticals Inc. and Endo Health Solutions Inc.

Trial testimony July 20-21, 2021 (via video)

Deposed on February 8, 2021 (via video)

Reply report filed on January 21, 2021

Affirmative report filed on November 13, 2020

Eric Stevens, et al. v Ford Motor Company

U.S. District Court for the Southern District of Texas

Putative class action consumer products liability case

Testimony regarding the car market and damages methodologies

Retained through Ford Motor Company

Deposed on June 24, 2021

Report filed on May 17, 2021

Leinani Deslandes and Stephanie Turner v McDonald’s USA, LLC

U.S. District Court for the Northern District of Illinois (Eastern Division)

Putative class action antitrust labor case

Testimony regarding franchising and vertical restraints, procompetitive benefits of vertical restraints, incentives, monopsony theory, general versus specific human capital, and salary structure models

Retained through McDonald’s USA, LLC

Deposed on May 10, 2021 (via video)

Report filed on April 15, 2021

Jamie Postpichal, Sarah Waters, and Ursula Freitas v Cricket Wireless, LLC

U.S. District Court for the Northern District of California (San Francisco Division)

Putative class action false advertising case

Testimony regarding heterogeneity of impact, damages estimation, consumer preferences

Retained through Cricket Wireless

Deposed on April 16, 2021 (via video)

Report filed on April 5, 2021

Documents Considered List

Academic Literature

- Abdelrahman, Hamza, and Luiz E. Oliveira, “The rise and fall of pandemic excess savings,” *FRBSF Economic Letter* 11, 2023, available at <https://www.frbsf.org/research-and-insights/publications/economic-letter/2023/05/rise-and-fall-of-pandemic-excess-savings/>
- Browning, Martin, and Thomas F. Crossley, “The Life-Cycle Model of Consumption and Saving,” *The Journal of Economic Perspectives* 15, no. 3, 2001, pp. 3–22, available at <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.15.3.3>
- Chetty, Raj, “Moral Hazard versus Liquidity and Optimal Unemployment Insurance,” *Journal of Political Economy*, 116, no. 2, 2008, pp. 173–234
- Cherry, Susan, et al., “Government and Private Household Debt Relief during COVID-19,” *Brookings Papers on Economic Activity*, 2021, pp. 141–199, available at https://www.brookings.edu/wp-content/uploads/2021/09/15985-BPEA-BPEA-FA21_WEB_Cherry-et-al.pdf
- Chetty, Raj, et al., “The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data,” *The Quarterly Journal of Economics*, Volume 139(2), 2024, pp. 829–889, available at <https://academic.oup.com/qje/article/139/2/829/7289247>
- Choi, Sekyu, and Arnau Valladares-Esteban, “On Households and Unemployment Insurance,” *Quantitative Economics*, Volume 11, 2020, pp. 437–469, available at <https://onlinelibrary.wiley.com/doi/epdf/10.3982/QE865>
- Cortes, Guido Matias, and Eliza Forsythe, “Impacts of the COVID-19 Pandemic and the CARES Act on Earnings and Inequality,” *IZA Institute of Labor Economics*, 13643, 2020, available at <https://docs.iza.org/dp13643.pdf>
- Cox, Natalie, et al, “Initial impacts of the pandemic on consumer behavior: Evidence from linked income, spending, and savings data,” *Brookings Papers on Economic Activity*, 2020, pp. 35-69, available at https://www.brookings.edu/wp-content/uploads/2020/06/SU20_S1_Cox-et-al._-final-paper.pdf
- East, Chloe N., and Elira Kuka, “Reexamining the Consumption Smoothing Benefits of Unemployment Insurance,” *Journal of Public Economics* 132, 2015, pp. 32–50
- Fang, Di, et al., “Food Insecurity During the COVID-19 Pandemic: Evidence from a Survey of Low-Income Americans,” *Food Security* 14, 2022, pp. 165–183, available at <https://link.springer.com/article/10.1007/s12571-021-01189-1>
- Fellowes, Matt and Mia Mabanta, “Borrowing to Get Ahead, and Behind: The Credit Boom and Bust in Lower-Income Markets,” *The Brookings Institution*, May 2007, available at https://www.brookings.edu/wp-content/uploads/2016/06/0511metropolitanpolicy_fellowes.pdf

- Flamang, Niklas, and Sreeraahul Kancherla, “Unemployment Insurance as a Financial Stabilizer: Evidence from Large Benefit Expansions,” Working Paper, 2023, available at https://nickflamang.github.io/files/UI_Benefit_Expansions_and_Local_Financial_Distress.pdf
- Ganong, Peter, and Pascal Noel, “Consumer Spending During Unemployment: Positive and Normative Impacts,” *American Economic Review* 109, no. 7, 2019, pp. 2383–2424, available at <https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.20170537>
- Ganong, Peter, et al., “Spending and Job-Finding Impacts of Expanded Unemployment Benefits: Evidence from Administrative Micro Data,” *American Economic Review* 114, no. 9, 2024, pp. 2898–2939
- Ganong, Peter, et al., Online Appendix to “Spending and Job-Finding Impacts of Expanded Unemployment Benefits: Evidence from Administrative Micro Data,” *American Economic Review* 114, no. 9, 2024, available at <https://www.aeaweb.org/content/file?id=21283>
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Pleadings

- Defendant’s Memorandum of Points and Authorities In Opposition To Plaintiffs’ Motion for Class Certification, *In Re Bank Of America California Unemployment Benefits Litigation*, October 24, 2024
- Memorandum Of Points and Authorities In Support Of Motion For Class Certification, *In Re Bank Of America California Unemployment Benefits Litigation*, August 29, 2024

- Reply in Support Of Motion For Class Certification, *In Re Bank Of America California Unemployment Benefits Litigation*, November 21, 2024
- Tentative Order Granting Plaintiffs’ Motion for Class Certification, *In Re Bank Of America California Unemployment Benefits Litigation*

Note: In addition to the documents on this list, I considered all documents cited in my report to form my opinions. I also reviewed materials listed in Appendix B of the Expert Report of Chloe N. East dated March 4, 2025 and Appendix B of the Expert Report of David I. Levine dated March 4, 2025.