

# Financial Inclusion Gone Wrong: Securities and Cryptoassets Trading for Children

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*According to studies, money is a major source of anxiety for most Americans. In looking for ways to remedy the source of such anxiety, some believe that increasing children's financial orientation could help lower their money-related anxiety levels as adults. Identifying this market as a business opportunity—and reassured by research that shows that by age six, children are already veteran consumers of mobile apps—financial technology (fintech), decentralized finance (DeFi), and even traditional financial entities have started offering services and products to children. These services and products include a broad array of financial-related products and services, from enabling children to earn money for doing their chores, to trading stocks and cryptoassets, and even to earning digital assets and currencies while playing video games.*

*The potential of this new market's clientele is valuable for two reasons. First, having more customers is always a good thing. Second, children will eventually mature into adult customers who presumably will continue using the services and products they like and are familiar with. And, although some legal challenges are associated with children—who are minors—entering financial-based online contracts, this business trend will continue to grow as it becomes socially acceptable to offer financial services to children. Society's newly adopted paradigms for describing, understanding, and shaping children's rights, domestic relationships, custodial status, and even digital purchasing power are all supportive of this trend. Moreover, fintech and DeFi apps and games can help teach children about the value of money, the importance of investing, and the risks involved in trading.*

*Yet fintech and DeFi apps and games could also have a disruptive effect on children, both developmentally and behaviorally, similar to that of other consumed digital content. This disruptive effect should be a source of concern to anyone focused on investor and consumer protection, including regulatory agencies like the Securities Exchange Commission (SEC) and Financial Industry Regulatory Authority (FINRA), which have already expressed concerns over*

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*gamification and digital engagement practices. In light of “the financialization of everything,” this Article looks to both legal and ethical reasoning and behavioral economics tools to call for the search for effective financial literacy education for children to be replaced by a search for policies more conducive to good consumer and investor protection outcomes. These policies should guide lawmakers in regulating fintech and DeFi apps and games offered to children in light of the following considerations: (i) the addictiveness of digital gaming; (ii) how gamifying finance makes it feel less serious; (iii) the connection between gamification and gambling; (iv) how children’s financial choices are more susceptible to the influence of outside parties than are those of adults; (v) fintech and DeFi apps and games’ failure to teach children the importance of concepts such as debt, credit, and financial commitments; and (vi) the unrealistic burden on young parents, who are already struggling to constantly supervise their children’s online activities, to monitor their children’s online financial activities in our digital era.*

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## INTRODUCTION

For the majority of Americans, money is a primary source of anxiety. Almost 90% of all Americans believe that nothing could make them happier than knowing that their finances are in order, and more than three-quarters of millennials and Generation X frequently experience emotional stress over money.<sup>1</sup> In looking for ways to help Americans address this source of anxiety, some believe that increasing children's financial orientation could help lower their money-related anxiety levels as adults,<sup>2</sup> and in general assist with addressing societal shortcomings. While not everyone agrees with this approach,<sup>3</sup> identifying this market as a business opportunity—motivated by research that shows that by age six children are already veteran consumers of digital apps and games<sup>4</sup>—financial technology (fintech) and decentralized finance (DeFi) companies, and even traditional financial institutions,

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1. See JUDY T. LIN, CHRISTOPHER BUMCROT, TIPPY ULICNY, GARY MOTTOLA, GERRI WALSH, ROBERT GANEM, CHRISTINE KIEFFER & ANNAMARIA LUSARDI, THE STATE OF U.S. FINANCIAL CAPABILITY: THE 2018 NATIONAL FINANCIAL CAPABILITY STUDY 1, 2 (2019); Press Release, Am. Psych. Ass'n, American Psychological Association Survey Shows Money Stress Weighing on Americans' Health Nationwide (2015), [https://www.apa.org/news/press/releases/2015/02/money-stress?utm\\_content=buffer187d9&utm\\_medium=social&utm\\_source=facebook.com&utm\\_campaign=buffer](https://www.apa.org/news/press/releases/2015/02/money-stress?utm_content=buffer187d9&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer).

2. Among those supporting this notion are lawmakers, industry and private sector participants, literacy advocates, and even scholars. See, e.g., Youth Financial Education Act, S. 925, 109th Cong. § 4401(b)(3) (2005); *Improving Financial Literacy in the United States: Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs*, 109th Cong. (2006) (statement of Ben S. Bernanke, Chairman of the Board of Governors, Federal Reserve System) (citing Gregory Eliehausen, E. Christopher Lundquist & Michael E. Staten, *The Impact of Credit Counseling on Subsequent Borrower Credit Usage and Payment Behavior* (Jan. 2003) (unpublished manuscript), [https://www.federalreserve.gov/communityaffairs/national/CA\\_Conf\\_SusCommDev/pdf/statenmichael.pdf](https://www.federalreserve.gov/communityaffairs/national/CA_Conf_SusCommDev/pdf/statenmichael.pdf) (arguing that it is empirically shown that financial education increases credit standing).

3. There are, however, commentators who disagree with this approach. See, e.g., Lauren E. Willis, *Against Financial-Literacy Education*, 94 IOWA L. REV. 197, 197 (2008) (“[T]he predicate belief in the effectiveness of financial-literacy education lacks empirical support. Moreover, the belief is implausible, given the velocity of change in the financial marketplace, the gulf between current consumer skills and those needed to understand today's complex nonstandardized financial products, the persistence of biases in financial decisionmaking, and the disparity between educators and financial-services firms in resources with which to reach consumers.”); Gregory Eliehausen, E. Christopher Lundquist & Michael E. Staten, *The Impact of Credit Counseling on Subsequent Borrower Behavior*, 41 J. CONSUMER AFFS. 1, 2 (2007) (admitting that their earlier work's data does not show a statistically significant impact of financial literacy on credit outcomes); Howell E. Jackson & Stacy A. Anderson, *Can States Tax National Banks To Educate Consumers About Predatory Lending Practices?*, 30 HARV. J.L. & PUB. POL'Y 831, 844 n.51 (2007); Douglas A. Hershey, David A. Walsh, Ruby Brougham, Stephen Carter & Alicia Farrell, *Challenges of Training Pre-Retirees To Make Sound Financial Planning Decisions*, 24 EDUC. GERONTOLOGY 447, 467 (1998) (indicating that consumers who participated in retirement-related financial sessions believed that their financial orientation had improved, yet their scores on financial examinations had not); James J. Choi, David Laibson, Brigitte C. Madrian & Andrew Metrick, *Saving for Retirement on the Path of Least Resistance*, in BEHAVIORAL PUBLIC FINANCE 304, 335–37 (Edward J. McCaffery & Joel Slemrod eds., 2006) (showing how employees who reported at the end of a retirement-investing class that they would up their savings typically ended up not doing so); Jean Braucher, *An Empirical Study of Debtor Education in Bankruptcy: Impact on Chapter 13 Completion Not Shown*, 9 AM. BANKR. INST. L. REV. 557, 574–77 (2001) (showing that the positive impact of bankruptcy-debtor education vanished upon controlling for easier repayment programs and different types of assistance offered to debtors who attended the educational sessions).

4. See, e.g., Press Release, UNICEF, Every Fourth Child in Preschool Age Owns a Digital Device (June 15, 2018), <https://www.unicef.org/serbia/en/press-releases/every-fourth-child-preschool-age-owns-digital-device>.

have recently started offering their services to children.<sup>5</sup> These services include a broad array of financial products and services, from enabling children to earn money for doing their chores, to trading securities and fractions of stocks and cryptoassets, and even to earning digital assets and currencies while playing video games.<sup>6</sup>

The potential of this new market's clientele is valuable for two reasons. First, having more customers is always positive. Second, children will eventually mature into adult customers who presumably will continue using the services and products they like and are familiar with. Moreover, if companies providing such services get users hooked on their services and products, this could prove beneficial for their businesses in the long term. While regulators that deal with investor protection are now focused on financial apps' digital

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5. See, e.g., Sarah Hansen, *Investment Giant Fidelity Will Let Your Teen Trade Stocks—for Free*, FORBES (May 18, 2021, 9:20 AM), <https://www.forbes.com/sites/sarahhansen/2021/05/18/investment-giant-fidelity-will-let-your-teen-trade-stocks-for-free/?sh=719b18884fe4>; *Kids Savings Account*, CAP. ONE, [https://www.capitalone.com/bank/savings-accounts/kids-savings-account/#id\\_accountdetails](https://www.capitalone.com/bank/savings-accounts/kids-savings-account/#id_accountdetails) (last visited Jan. 28, 2023); Eliza Haverstock, *With Debit Cards and Investing for Kids, Fintech Startup Greenlight Doubles Valuation to \$2.3 Billion*, FORBES, <https://www.forbes.com/sites/elizahaverstock/2021/04/27/with-debit-cards-and-investing-for-kids-fintech-startup-greenlight-doubles-valuation-to-23-billion/?sh=32c386d93aad> (Apr. 27, 2021, 11:15 AM); Simon Chandler, *Blockchain Games in 2022: Play-To-Earn, Gamification, Interoperability and Major Publishers*, CRYPTONEWS (Feb. 13, 2022, 4:00 AM), <https://cryptonews.com/exclusives/blockchain-games-2022-play-earn-gamification-interoperability-major-publishers.htm>; *What To Know About Savings Accounts for Kids*, BANK OF AM.: BETTER MONEY HABITS, <https://bettermoneyhabits.bankofamerica.com/en/personal-banking/best-savings-accounts-for-kids> (last visited Jan. 28, 2023).

6. See, e.g., Robert Farrington, *Play-To-Earn Gaming Is Driving NFT and Crypto Growth*, FORBES (Dec. 13, 2021, 10:45 AM), <https://www.forbes.com/sites/robertfarrington/2021/12/13/play-to-earn-gaming-is-driving-nft-and-crypto-growth/?sh=600e1e7fe2de>; Ojash Yadav, *What Is GameFi and Can You Really Earn Money Playing Video Games?*, MAKE TECH EASIER (Feb. 9, 2022), <https://www.maketecheasier.com/what-is-gamefi/>; Clive Thompson, *The Untold Story of the NFT Boom*, N.Y. TIMES (May 12, 2021), <https://www.nytimes.com/2021/05/12/magazine/nft-art-crypto.html?searchResultPosition=1>.

engagement practices<sup>7</sup>—such as Robinhood’s gamification features<sup>8</sup>—examining the impact of these features on customers in general,<sup>9</sup> with a specific focus on children using such financial services as a subgroup, is critical.

“Children’s law” is not a single body of law with a coherent set of principles.<sup>10</sup> “[H]owever, one common theme . . . extends across the many bodies of law that apply to children”: children’s development and the differences associated with it justify distinct treatment of children in various legal contexts.<sup>11</sup> Consumer and investor protection, along with securities law, should be among the legal contexts that treat children differently. Indeed, children are protected

7. Between 2021 and 2022, gamification became an object of much legislative and regulatory interest, and the SEC has made gamification a priority. See Benjamin Bain & Robert Schmidt, *Gensler Targets Broker ‘Gamification’ After Trading Tumult*, BLOOMBERG, <https://www.bloomberg.com/news/articles/2021-03-02/gensler-says-scrutinizing-trading-apps-would-be-focus-at-sec> (Mar. 2, 2021, 11:17 AM). In May 2021, testifying before Congress, SEC Chairman Gary Gensler specifically objected to brokerage apps that use “psychological prompts to get people to trade more.” U.S. House Comm. on Fin’l Servs., *Virtual Hearing - Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part III*, YOUTUBE (May 6, 2021, 12:00 PM), <https://www.youtube.com/watch?v=vX2X8xxHEns>. Similarly, the Democratic majority of the Commission have showed approval and support for regulating gamification. See Allison Herren Lee, Comm’r, SEC, *Leveraging Regulatory Cooperation To Protect America’s Investors: Remarks at the 2021 Section 19(d) Conference* (May 21, 2021), <https://www.sec.gov/news/speech/lee-2021-section-19d-conference>; Chris Ekimoff & Kurt Wolfe, *Enforcing the Regulations: A Conversation with Commissioner Crenshaw*, PRACTISING L. INST.: INSECURITIES PODCAST, at 18:45 (June 17, 2021), <https://insecurities.podbean.com/e/enforcing-the-regulations—a-conversation-with-commissioner-crenshaw/>. The SEC’s Republican commissioners, however, have been advocating for a different approach regarding the regulation of gamification. See, e.g., Hester M. Peirce, SEC, *Atomic Trading*, Speech at the George Washington University Law School Regulating the Digital Economy Conference (Feb. 22, 2021), <https://www.sec.gov/news/speech/peirce-atomic-trading-2021-02-22> (advocating for the SEC to gamify its communications with investors); Dean Seal, *SEC’s Roisman Wary of Playing into ‘Gamification’ Fears*, LAW360 (Nov. 16, 2021, 8:21 PM), <https://www.law360.com/articles/1441062/sec-s-roisman-wary-of-playing-into-gamification-fears> (advancing an approach that would help avoid getting the SEC “mired in litigation”).

8. See, e.g., Maggie Fitzgerald, *Robinhood Gets Rid of Confetti Feature amid Scrutiny over Gamification of Investing*, CNBC (Mar. 31, 2021, 9:05 AM), <https://www.cnbc.com/2021/03/31/robinhood-gets-rid-of-confetti-feature-amid-scrutiny-over-gamification.html>; Annie Massa & Tracy Alloway, *Robinhood’s Role in the ‘Gamification’ of Investing*, BLOOMBERG, <https://www.bloomberg.com/news/articles/2020-12-19/robinhood-s-role-in-the-gamification-of-investing-quicktake> (July 15, 2021, 9:00 PM); Nathaniel Popper, *Robinhood Has Lured Young Traders, Sometimes with Devastating Results*, N.Y. TIMES (July 8, 2020), <https://www.nytimes.com/2020/07/08/technology/robinhood-risky-trading.html>; Hannah Levintova, *Robinhood Promises Free Trades. Did Alex Kearns Pay with His Life?*, MOTHER JONES (Apr. 29, 2021), <https://www.motherjones.com/politics/2021/04/robinhood-gamestop-free-trades-alex-kearns/>.

9. More and more financial service providers are looking to gamify their services and offerings and to include game-like features that will draw and capture the attention of customers. For example, Long Game, a platform that turns personal savings into a game, received much attention from traditional financial institutions. See Mary Ann Azevedo, *Banking Giant Truist Acquires Fintech Startup Long Game in Effort To Reach Younger Demographic*, TECHCRUNCH (May 3, 2022, 3:01 AM), <https://techcrunch.com/2022/05/03/banking-giant-truist-acquires-fintech-startup-long-game-in-effort-to-reach-younger-demographic/>. In the spring of 2022, Long Game was acquired by Truist Financial Corporation, the sixth largest bank in the United States and the product of a 2019 merger between BB&T and SunTrust banks. *Id.*

10. Emily Buss, *What the Law Should (and Should Not) Learn from Child Development Research*, 38 HOFSTRA L. REV. 13, 18–19 (2009) (dividing the law’s distinct treatment of children into a few largely defining categories: constitutional law, torts, and contracts; criminal and civil law; substantive law and procedure).

11. Emily Buss, *The Law’s Role in Raising Children*, 46 OHIO N.U. L. REV. 267, 267 (2020).

as consumers, for example, by unique legislation such as the Children’s Online Privacy Protection Act (COPPA),<sup>12</sup> which was largely designed to outlaw “unfair or deceptive acts or practices in connection with personal information from and about children on the internet.”<sup>13</sup> Such unfair or deceptive acts or practices have been recognized in children-targeted devices, toys, wearables, and Internet of Things-based devices.<sup>14</sup> But, more relevantly and disturbingly for this Article’s purposes, studies have found that more “than two-thirds of the 1,000 most popular iPhone apps likely to be used by children collect and send their personal information out to the advertising industry[;] . . . [o]n Android, 79 percent of popular kids’ apps do the same.”<sup>15</sup> Indeed, there is a reason why children cannot vote, enlist in the military, obtain a driver’s license, purchase tobacco, drink alcohol, and do other types of activities that adults can<sup>16</sup>—it takes time for children’s judgment and capacity to understand consequences to develop. Furthermore, children’s use of digital technology deserves special attention, because not only does research find, for example, that many children cannot distinguish ads from content, but also that data collected about them as users can be misused in uniquely harmful ways. Therefore, society has decided to protect children and prevent individuals, businesses, and other entities from exploiting children’s behavioral data or manipulating children online. Fintech and DeFi apps and games targeting children should not be treated any differently. Yet this business trend will continue to grow as offering financial services to children becomes socially acceptable, especially given society’s newly adopted paradigms for describing, understanding, and shaping children’s

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12. See Children’s Online Privacy Protection Act (COPPA), Pub. L. No. 105-277, 112 Stat. 2681-728 to -735 (1998) (codified as amended at 15 U.S.C. §§ 6501–6506). COPPA is supplemented by a rule created, updated, and enforced by the Federal Trade Commission (FTC). See Children’s Online Privacy Protection Rule, 64 Fed. Reg. 59888, 59888 (Nov. 3, 1999) (codified at 16 C.F.R. pt. 312 (2018)). The COPPA Rule has been effective since April 21, 2000. Children’s Online Privacy Protection Rule, 78 Fed. Reg. 3972, 3972 (Jan. 17, 2013).

13. For a discussion of COPPA, see Eldar Haber, *The Internet of Children: Protecting Children’s Privacy in a Hyper-Connected World*, 2020 U. ILL. L. REV. 1209, 1224 (“The protection of children’s privacy online was first formally acknowledged with the enactment of COPPA in 1998.”); Gaia Bernstein, *When New Technologies Are Still New: Windows of Opportunity for Privacy Protection*, 51 VILL. L. REV. 921, 948–49 (2006); Andrea M. Matwyshyn, *Material Vulnerabilities: Data Privacy, Corporate Information Security, and Securities Regulation*, 3 BERKELEY BUS. L.J. 129, 155–56 (2005). Commentators have argued that COPPA was a reaction to the failure of self-regulation, especially following the Kids.com advisory letter in which the FTC specified standards for privacy policies on websites targeting children. See *How COPPA Came About*, INFORMATIONWEEK (Jan. 14, 2004), <http://www.informationweek.com/story/showArticle.jhtml?articleID=17300888>. Prior to COPPA, the 1974 Family Educational Rights and Privacy Act regulated children’s informational privacy—and family privacy—related matters. See Family Educational Rights and Privacy Act, Pub. L. No. 93-380, 88 Stat. 571, 571–74 (1974) (codified at 20 U.S.C. § 1232g).

14. See, e.g., Haber, *supra* note 13, at 1209; Eldar Haber, *Toying with Privacy: Regulating the Internet of Toys*, 80 OHIO ST. L.J. 399, 401–02 (2019). For a taxonomy of privacy, see Daniel J. Solove, *A Taxonomy of Privacy*, 154 U. PA. L. REV. 477, 478 (2006).

15. Geoffrey A. Fowler, *Your Kids’ Apps Are Spying on Them*, WASH. POST (June 9, 2022, 8:00 AM), <https://www.washingtonpost.com/technology/2022/06/09/apps-kids-privacy/>.

16. Cole F. Watson, *Protecting Children in the Frontier of Surveillance Capitalism*, 27 RICH. J.L. & TECH. 1, 36 (2021).

rights, domestic relationships, custodial status, and even digital purchasing power.

This is not to say that fintech and DeFi apps and games do not offer any educational value for children—such a statement would be wrong. These apps and especially games can help teach those using them about the value of money and how to earn it, the importance of investing, and the risks associated with trading.<sup>17</sup> But they can also have a developmentally and behaviorally disruptive influence on children by functioning like “hard drugs” or “acting like stimulants” for children; the dopamine released by the stimulation of digital apps and games hits children and teens more virulently because their cerebral cortexes are not sufficiently developed to enable them to feel satisfied with small doses or to self-regulate.<sup>18</sup> This in turn causes anxiety and stress, subjecting children to social influencers’ manipulations,<sup>19</sup> or simply inculcating the wrong values.<sup>20</sup> Moreover, these apps and games should be a source of concern to anyone focused on consumer and investor protection and securities laws, including regulatory agencies like the Securities and Exchange Commission (SEC) and Financial Industry Regulatory Authority (FINRA), which have already expressed concerns about gamification, financial apps’ digital engagement practices, and their potential effects,<sup>21</sup> or the Federal Trade Commission (FTC), which regulates deceptive practices and online gaming.

Drawing from legal and ethical reasoning, social studies’ insights, and behavioral economics tools, this Article calls for the search for effective financial literacy education for children to be replaced with a search for policies conducive to good consumer financial outcomes. These policies should also focus on broker-dealer regulation, a subfield of securities law; brokers are those

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17. See generally KEVIN WERBACH & DAN HUNTER, FOR THE WIN: THE POWER OF GAMIFICATION AND GAME THINKING IN BUSINESS, EDUCATION, GOVERNMENT, AND SOCIAL IMPACT (2020) (discussing the many educational advantages of gamification).

18. See *infra* Part III.A.

19. Social influence has always played a role in marketing, decision-making, and even financial behavior, but the popularity of online social influence has reached a whole new level. From stock promotions on TikTok videos to viral posts on Instagram like Kim Kardashian’s cryptocurrency plug, people have been following their favorite influencers’ promotions, with children and emerging adults being especially susceptible to the influence of outside parties. See *infra* Part III.B.

20. See *infra* Part III.B (discussing the example of Kwedit, one of the first companies based on the “buy now, pay later” (BNPL) business model, which enabled children to make and back out of digital purchases, instilling the understanding that it is okay to purchase things one cannot afford and back out of financial commitments).

21. See Request for Information and Comments on Broker-Dealer and Investment Adviser Digital Engagement Practices, Exchange Act Release No. 34-92766, 86 Fed. Reg. 49067, 49071 (Sept. 1, 2021) (requesting information and comments on broker-dealer and investment-adviser digital engagement practices); *Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part III: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. 2 (2021) (testimony of Gary Gensler, Chairman, SEC); FINRA, 2021 REPORT ON FINRA’S EXAMINATION AND RISK MONITORING PROGRAM 2 (2021), <https://www.finra.org/sites/default/files/2021-02/2021-report-finras-examination-riskmonitoring-program.pdf> (highlighting that the use of interactive and “game-like features” by online broker-dealers to engage with customers can result in increased risk for customers).



“engaged in the business of effecting transactions in securities for the account of others,” or for their own accounts.<sup>22</sup> In calling for this shifted focus, this Article explores the following issues, which should guide lawmakers in regulating financial apps offered to children: (i) the addictiveness of digital gaming; (ii) how gamifying finance makes it feel less serious; (iii) the connection between gamification and gambling; (iv) the fact that children’s financial choices are more susceptible to the influence of outside parties than are adults’; (v) the consequences of financial apps failing to teach children the importance of concepts such as debt, credit, and financial commitments; and finally, (vi) the added, unrealistic burden on young parents who already struggle with constantly supervising their children’s online activities to additionally monitor their children’s online financial activities in our digital era.

This Article is structured as follows. Part I examines how important money and finance is to most people, how it has become the most significant source of anxiety for Americans, and the importance of financial literacy and education. Part II explores the concepts of fintech, DeFi, and game financialization (GameFi), and examines the development of the gamification trend in the financial industry and how children have become a significant target audience for financial platforms, apps, and games despite their limited legal capacity as minors. Part III examines some reflections on policy implications regarding the gamification of the financial industry as it relates to and affects children developmentally, socially, and behaviourally. Part IV examines the regulatory initiatives that address some of the relevant issues relating to children and the financial products and services offered to them on digital platforms and apps. This Article then explores which government agencies have authority over regulating these issues and which ones could be up to this task, if at all. Finally, it concludes by offering some policy recommendations and advocating for greater scrutiny of the gamification of finance’s effect on children.

## I. IT’S ALL ABOUT THE MONEY

### A. MONEY AS A SOURCE OF ANXIETY

Financial worries can be extremely stressful. According to a 2018 FINRA survey, more than half of the Americans surveyed agreed that thinking about their finances made them anxious; 44% felt that discussing their finances was stressful, with respondents ages eighteen to thirty-three reporting the highest levels of stress (63%) and anxiety (55%).<sup>23</sup> Similarly, according to a study conducted by the American Psychological Association, money has been found to be especially angst-producing for parents and younger adults, with more than

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22. 15 U.S.C. § 78c(a)(4)(A). *See, e.g.*, Peter H. Huang, *Trust, Guilt, and Securities Regulation*, 151 U. PA. L. REV. 1059, 1067–68 (2003) (discussing the regulation of broker-dealers).

23. *See* LIN ET AL., *supra* note 1.

75% of the surveyed parents—millennials and Generation X<sup>24</sup>—frequently experiencing emotional stress over their finances.<sup>25</sup> Likewise, a 2018 study conducted by Northwestern Mutual found that 87% of Americans believe that nothing could make them happier or more self-assured than knowing that their finances are in order.<sup>26</sup>

This anxiety is justified. Many Americans are not managing their financial lives as well as one would hope. Around 12.8 million consumer bankruptcy petitions were filed in federal courts between October 2005 and September 2017.<sup>27</sup> Then, in 2019, right before the COVID-19 pandemic erupted, the United States experienced a large number of bankruptcy filings, with 774,940 new cases opened in the federal court system.<sup>28</sup> Although there were fewer bankruptcy cases filed in 2020 despite the COVID-19 pandemic disrupting normal life and increasing unemployment rates, scholars have argued that this decrease is likely the temporary effect of the combination of government stimulus, loan forbearance, and liquidity constraints that helped depress bankruptcy-filing rates.<sup>29</sup> Additionally, parents received a child tax credit from the government that, according to studies, greatly helped reduce financial stress.<sup>30</sup> But that benefit ended in December 2021, leaving millions wondering how to make ends meet.<sup>31</sup>

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24. Scholars refer to these two generations as the “age cohorts born after 1964.” See, e.g., Amy J. Sepinwall, *Conscience in Commerce: Conceptualizing Discrimination in Public Accommodations*, 53 CONN. L. REV. 1, 32 n.134 (2021).

25. See Am. Psych. Ass’n, *supra* note 1.

26. *Planning & Progress Study 2018*, NW. MUT., <https://news.northwesternmutual.com/planning-and-progress-2018> (last visited Jan. 28, 2023).

27. Arthur Zuckerman, *80 Bankruptcy Statistics: 2020/2021 Data, Insolvency Factors & Recovery Predictions*, COMPARECAMP (May 26, 2020), <https://comparecamp.com/bankruptcy-statistics/#TOC6>.

28. See U.S. BANKR. CTS., REPORT F-5A: U.S. BANKRUPTCY COURTS—BUSINESS AND NONBUSINESS BANKRUPTCY CASES COMMENCED, BY COUNTY AND CHAPTER OF THE BANKRUPTCY CODE—DURING THE 12-MONTH PERIOD ENDING DECEMBER 31, at 1 (2019), <https://www.uscourts.gov/statistics/table/f-5a/bankruptcy-filings/2019/12/31>.

29. See Jialan Wang, Jeyul Yang, Benjamin Iverson & Raymond Kluender, *Bankruptcy and the COVID-19 Crisis* 21 tbl.1 (Harvard Bus. Sch., Working Paper No. 21-041, 2020), [https://www.hbs.edu/risk/Publication%20Files/21-041\\_a9e75f26-6e50-4eb7-84d8-89da3614a6f9.pdf](https://www.hbs.edu/risk/Publication%20Files/21-041_a9e75f26-6e50-4eb7-84d8-89da3614a6f9.pdf) (tracking bankruptcy filings in the United States using real-time data on the universe of filings, and observing that the total number of bankruptcy filings was down by 28% in 2020 relative to the same period in 2019, contrary to media reports and experts’ expectations). Supporting this explanation, law professor Pamela Foohey argued that in 2021, there were “many forces . . . pushing people to not file bankruptcy,” but that this does not mean people will not do so later. See Andrew Keshner, *‘2022 Could Be the Year of Financial Reckoning’: Bankruptcies Fell Dramatically in 2021, but These Challenges Await*, MARKETWATCH, <https://www.marketwatch.com/story/2022-could-be-the-year-of-financial-reckoning-bankruptcy-cases-fell-dramatically-in-2021-but-new-challenges-await-11641296556> (Jan. 8, 2022, 9:26 AM).

30. *The Child Tax Credit Is Buffering Families from Financial Hardship*, RAPID SURVEY PROJECT 3–4 (Dec. 16, 2021), [https://static1.squarespace.com/static/5e7cf2f62c45da32f3c6065e/t/61bb5206be15101c1c036ede/1639666182531/CTC+buffering+families\\_dec2021.pdf](https://static1.squarespace.com/static/5e7cf2f62c45da32f3c6065e/t/61bb5206be15101c1c036ede/1639666182531/CTC+buffering+families_dec2021.pdf).

31. Ben Casselman, *Child Tax Credit’s Extra Help Ends, Just as Covid Surges Anew*, N.Y. TIMES, <https://www.nytimes.com/2022/01/02/business/economy/child-tax-credit.html> (Jan. 3, 2022) (“[The] monthly child benefit, part of the Biden administration’s response to the pandemic[, is ending]. [These] payments, which started in July and amounted to hundreds of dollars a month for most families, have helped millions of American

Historically, bankruptcy filings have closely followed the business cycle in the United States. But because many forces came into play during the COVID-19 pandemic in an attempt to keep the economy afloat,<sup>32</sup> there could be a delay in seeing how long it actually takes people to begin suffering financially from challenging economic circumstances.<sup>33</sup> Such financial difficulties were somewhat reflected in Chase's December 2021 survey, which showed that 40% of parents of children ages seventeen and younger cited the ability to afford their family's basic living expenses, including food and utilities, as their main financial stressor.<sup>34</sup> These financial difficulties are predictable, given that the total U.S. household debt climbed to more than \$15 trillion from September to December 2021, according to a report published by the Federal Reserve Bank of New York.<sup>35</sup>

But bankruptcy is not a solution that should be adopted lightheartedly. It should be the last resort for consumers in financial distress who need the chance to liquidate their debts and gain a fresh start, as it comes at a cost, both in what consumers pay to file bankruptcy and in damage to consumers' credit scores,<sup>36</sup>

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families pay for food, rent and child care; kept millions of children out of poverty; and injected billions of dollars into the U.S. economy . . .").

32. See Keshner, *supra* note 29 (stating that according to a federal court system report from Supreme Court Chief Justice John Roberts, "[i]ncreased government benefits" throughout the year—such as third round \$1,400 stimulus checks, supplemental jobless benefits, and monthly child tax credit payments—were one reason for the "drop" in bankruptcy filings, along with "eviction moratoriums" and "state lockdown orders that decreased personal expenditures"). With these special circumstances nearing their end, however, it is doubtful that the drop in case filings will continue into 2022, or after.

33. See generally Pamela Foohey, Robert M. Lawless, Katherine Porter & Deborah Thorne, *Life in the Sweatbox*, 94 NOTRE DAME L. REV. 219 (2018) (arguing that it can take people around two years of financial struggle ending with a crisis like an eviction notice before they file for bankruptcy). Foohey stated that, in the context of 2020 to 2021, it is "unclear when the clock on that struggle might be occurring." Keshner, *supra* note 29.

34. Gabrielle Olya, *40% of Parents Are Stressed About Covering Basic Living Expenses — Why Are So Many Struggling?*, GOBANKINGRATES (Jan. 6, 2022), <https://www.gobankingrates.com/saving-money/family/40-percent-parents-are-stressed-about-covering-basic-living-expenses/>.

35. *Household Debt and Credit Report (Q3 2021)*, FED. RSRV. BANK OF N.Y.: CTR. FOR MICROECON. DATA, <https://www.newyorkfed.org/microeconomics/hhdc> [<https://web.archive.org/web/20211206183928/https://www.newyorkfed.org/microeconomics/hhdc>] (explaining that in the third quarter of 2021, the total household debt increased by \$286 billion (1.9%) to \$15.24 trillion, mortgage balances (the largest component of household debt) rose by \$230 billion, auto loans increased by \$28 billion, student loan balances grew by \$14 billion, credit card balances increased by \$17 billion, and non-housing balances grew by \$61 billion, with gains across all debt types).

36. Ben Luthi, *How Does Filing Bankruptcy Affect Your Credit?*, EXPERIAN (July 26, 2020), <https://www.experian.com/blogs/ask-experian/how-does-filing-bankruptcy-affect-your-credit/> ("Your payment history is the most important factor in determining your credit score, and filing bankruptcy means that you won't be paying covered debts in full as you initially agreed. As a result, filing bankruptcy can have a severely negative impact on your credit score. A Chapter 7 bankruptcy will remain on your credit reports and affect your credit scores for 10 years from the filing date; a Chapter 13 bankruptcy will affect your credit reports and scores for seven years. Regardless of which type of bankruptcy you choose, lenders will be able to see it on your credit reports in the public records section and it's likely to be a factor in their decision-making. Once you've completed the legal process, it will show that both the bankruptcy and the debts included in it have been discharged. If you apply for credit, lenders may not approve your application unless the bankruptcy has been discharged. Even then, you may have a hard time getting approved for certain types of loans. If you do get approved, you may face steep interest rates and other unfavorable terms.").

which can result in further stress and difficulties. Yet bankruptcy may be on many people's minds, as recent studies have found that the most common contributing factor to bankruptcy is a loss of income.<sup>37</sup> Further data collected since March 2020 showing a range of ways in which people's lives have been affected by the COVID-19 pandemic demonstrates that more than half of U.S. households experienced a loss in employment income—an extremely stressful situation.<sup>38</sup> Likewise, studies show that since March 2020, approximately 35% of adults surveyed in U.S. households expect someone in their household to lose employment income in the next four weeks.<sup>39</sup> Moreover, although the omicron variant of the coronavirus has not disrupted the U.S. economy as the virus did in the spring of 2020, “it has [still] wreaked havoc on millions of Americans’ ability to work and pay their bills.”<sup>40</sup> Specifically, according to the U.S. Census Bureau Household Pulse Survey, in January 2022, about nine million Americans were not working due to sickness or were caring for someone close to them who was sick.<sup>41</sup> Likewise, more than 31% of adults asked about their financial conditions in January 2022 “said they were in households where it [was] somewhat or very difficult to pay for usual expenses in the last seven days.”<sup>42</sup> Even worse, according to other studies, two-thirds of adults think that “money [i]s a major source of stress in their lives, and [that] the main cause [i]s a lack of fundamental financial literacy.”<sup>43</sup>

#### B. CHILDREN AND FINANCIAL EDUCATION AND LITERACY

Whether rightfully or not, American financial regulation addressing consumer protection issues has traditionally focused on the core policies of disclosure and free choice.<sup>44</sup> However, as financial services like credit,

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37. Lyle Daly, *Personal Bankruptcy Statistics for 2020*, THE ASCENT (Mar. 24, 2020), <https://www.fool.com/the-ascend/research/personal-bankruptcy-statistics/>. Additionally, bankruptcy is more common among lower-income debtors, particularly those who earn \$30,000 or less per year. *Id.*

38. See *Household Pulse Survey: Loss of Employment Income*, U.S. CENSUS BUREAU, <https://www.census.gov/data-tools/demo/hhp/#/?periodSelector=12&measures=JOBLOSS> (last visited Jan. 28, 2023) (“The Household Pulse Survey [was] designed to deploy quickly and efficiently, collecting data on a range of ways in which people’s lives have been impacted by the pandemic.”).

39. See *Household Pulse Survey: Expected Loss in Employment Income*, U.S. CENSUS BUREAU, <https://www.census.gov/data-tools/demo/hhp/#/?periodSelector=12&measures=LFNEXT> (last visited Jan. 28, 2023).

40. Tami Luhby, *Omicron May Be Mild, but It’s Still Adding to Many Americans’ Financial Stress*, CNN POL. (Feb. 1, 2022, 10:42 AM), <https://www.cnn.com/2022/02/01/politics/omicron-us-financial-stress/index.html>.

41. *Id.*

42. *Id.*

43. Chris Carosa, *This Is Stressing You Most (and What You Should Do About It)*, FORBES (Jan. 30, 2022, 11:03 AM), <https://www.forbes.com/sites/chrisarosa/2022/01/30/this-is-stressing-you-most-and-what-you-should-do-about-it/?sh=4282dcbd1b25>.

44. Michael D. Guttentag, *Protection from What? Investor Protection and the JOBS Act*, 13 U.C. DAVIS BUS. L.J. 207, 242 (2013) (“Lauren Willis has reached a complementary conclusion about the need for more fundamental changes to protect investors from their own unwise financial decision-making processes. Willis shows that reliance on disclosure requirements as a means to protect investors from making unwise investment decisions is misplaced.”).

insurance, and trading have become increasingly more complex, individuals' ability to understand them has greatly decreased. Attempting to address this growing problem, some lawmakers have advocated for financial literacy education.<sup>45</sup> Reaching similar conclusions about the importance of financial literacy and orientation, in recent decades global organizations have also started advocating for financial education,<sup>46</sup> measuring how successful countries have been in implementing such educational programs and then comparing the results.<sup>47</sup> This push for financial education has been advanced under the hope that financial literacy will help turn consumers into “responsible” and “empowered” market players.<sup>48</sup> Indeed, according to a recent FINRA study,<sup>49</sup> the lack of financial literacy is linked not only to undesired financial choices, but also to high levels of anxiety and, unsurprisingly, low financial security.<sup>50</sup>

Among the undesired financial choices are misguided, unfounded, or poorly calculated financial decisions, which often overlap with what those filing for bankruptcy cite as the main reasons for needing to declare bankruptcy. For example, about 45% of a 2020 study's respondents cited “unaffordable mortgage or foreclosure” and “spending/living beyond means” as reasons that they agreed contributed to their bankruptcy.<sup>51</sup> Moreover, more older Americans are filing for

45. See generally Student Empowerment and Financial Literacy Act, H.R. 8486, 116th Cong. (2020); CHERYL R. COOPER, CONG. RSCH. SERV., R46941, FINANCIAL LITERACY AND FINANCIAL EDUCATION POLICY ISSUES (2021), <https://crsreports.congress.gov/product/pdf/R/R46941> (calling for financial literacy education).

46. 4 ORG. FOR ECON. COOP. & DEV., PISA 2015 RESULTS: STUDENTS' FINANCIAL LITERACY 133–34 (2017), <https://www.oecd.org/pisa/pisa-2015-results-volume-iv-9789264270282-en.htm>; 4 ORG. FOR ECON. COOP. & DEV., PISA 2018 RESULTS: ARE STUDENTS SMART ABOUT MONEY? 138–40 (2020), [https://www.oecd-ilibrary.org/docserver/48ebd1ba-en.pdf?expires=1668654625&id=id&acname=guest&checksum=76B826453DA0D8329983368E66BECAAF; Naoyuki Yoshino, Peter J. Morgan & Ganeshan Wignaraja, \*Financial Education in Asia: Assessment and Recommendations\* 3 \(Asian Dev. Bank Inst., Working Paper No. 534, 2015\), <https://www.adb.org/sites/default/files/publication/161053/adbi-wp534.pdf>.](https://www.oecd-ilibrary.org/docserver/48ebd1ba-en.pdf?expires=1668654625&id=id&acname=guest&checksum=76B826453DA0D8329983368E66BECAAF; Naoyuki Yoshino, Peter J. Morgan & Ganeshan Wignaraja, Financial Education in Asia: Assessment and Recommendations 3 (Asian Dev. Bank Inst., Working Paper No. 534, 2015), https://www.adb.org/sites/default/files/publication/161053/adbi-wp534.pdf)

47. ORG. FOR ECON. COOP. & DEV., *supra* note 46, at 27, 54–56; Sean Coughlan, *Pisa Tests: UK Rises in International School Rankings*, BBC NEWS (Dec. 3, 2019), <https://www.bbc.com/news/education-50563833>; Abigail Johnson Hess, *US Students Scored Behind Estonia and Poland on This Financial Literacy Exam—Try 2 Questions for Yourself*, CNBC (May 14, 2020, 9:38 AM), <https://www.cnbc.com/2020/05/14/us-students-scored-behind-estonia-on-this-financial-literacy-exam.html>.

48. *Cf.* Willis, *supra* note 3, at 202 (arguing that the pursuit of financial literacy also entails costs that almost undoubtedly trump any benefits; for example, for some people, financial education leads to a false sense of confidence that is not based on improved ability, and that leads to worse decisions).

49. ANDREW STOLTMANN & BENJAMIN P. EDWARDS, FINRA GOVERNANCE REVIEW: PUBLIC GOVERNORS SHOULD PROTECT THE PUBLIC INTEREST 1 (2017), <https://piaba.org/system/files/2017-11/PIABA%20Report-%20FINRA%20Governance%20Report%20%28November%2015%2C%202017%29.pdf> (“The Financial Industry Regulatory Authority (FINRA) plays a vital role in regulating the securities industry.”). FINRA describes itself as “an independent, not-for-profit organization authorized by Congress to protect America’s investors by making sure the securities industry operates fairly and honestly.” *Id.*

50. Timothy Pierce & Angelita Williams, *Large Number of Americans Reported Financial Anxiety and Stress Even Before the Pandemic*, FINRA (Apr. 28, 2021), <https://www.finra.org/media-center/news-releases/2021/large-number-americans-reported-financial-anxiety-and-stress-even>; see also ANDREA HASLER, ANNAMARIA LUSARDI & OLIVIA VALDES, FINANCIAL ANXIETY AND STRESS AMONG U.S. HOUSEHOLDS: NEW EVIDENCE FROM THE NATIONAL FINANCIAL CAPABILITY STUDY AND FOCUS GROUPS (2021), <https://gflec.org/wp-content/uploads/2021/04/Anxiety-and-Stress-Report-GFLEC-FINRA-FINAL.pdf?x85507>.

51. Daly, *supra* note 37.

bankruptcy today than they did twenty-five years ago.<sup>52</sup> Among the top reasons for their personal bankruptcy filings include the inability to handle medical costs, the need to support parents or adult children, using a 401k instead of a pension as retirement income, and holding debt from credit cards and mortgages later in life.<sup>53</sup>

Teaching younger generations about money, investing, and fiscal planning at an earlier age, therefore, can be an effective way to increase financial literacy. However, despite the importance of such education, not enough well-planned, carefully designed and, most importantly, successfully executed initiatives have been made to increase overall financial literacy. For example, a national initiative designed to increase financial literacy among twelve- to seventeen-year-olds introduced in the late 1990s proved to be a failure a decade later, with findings that reflected severe financial literacy deficits—only one-quarter of participants knew about basic financial concepts like inflation.<sup>54</sup> Similarly, a survey conducted in 2019 on behalf of the National Foundation for Credit Counseling found that among 2,086 adult Americans, 65% of those surveyed were saving at least some funds for retirement, but only 18% felt very confident about what they were doing and how much they were saving.<sup>55</sup>

Likewise, when asked about debt, most people indicated that they had debts and preexisting financial commitments, but their lack of understanding about retirement funds and savings, or their debts, did not stop most survey participants (55%) from giving themselves a grade of A or B in financial literacy.<sup>56</sup> A 2020 survey confirms this in-debt way of living, finding that only 16% of American adults have never had debt.<sup>57</sup> Thus, 84% do not know a different way of living and consuming. But this reality could change with financial education and higher-quality, supervised exposure to financing and consumption options. For instance, research shows that children whose parents had more education, more financial means, or who discussed their investment and saving methods, portfolios, and knowledge scored better than those who did not have any such financial exposure.<sup>58</sup>

Additionally, studies have found correlations between different sociodemographic groups, indicating that children of immigrants or historically financially weaker populations score lower than average on financial literacy

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52. Zuckerman, *supra* note 27.

53. *Id.*

54. Annamaria Lusardi, Olivia S. Mitchell & Vilsa Curto, *Financial Literacy Among the Young*, 44 J. CONSUMER AFFS. 358, 361, 374–76 (2010).

55. THE HARRIS POLL, 2019 CONSUMER FINANCIAL LITERACY SURVEY 9, 12 (2019), [https://cdn2.hubspot.net/hubfs/5146491/NFCC\\_2019%20FLS\\_datashet%20with%20key%20findings\\_032519.pdf?utm\\_referrer=https%3A%2F%2Fdigital.nfcc.org%2F](https://cdn2.hubspot.net/hubfs/5146491/NFCC_2019%20FLS_datashet%20with%20key%20findings_032519.pdf?utm_referrer=https%3A%2F%2Fdigital.nfcc.org%2F).

56. *Id.* at 4.

57. THE HARRIS POLL, 2020 CONSUMER FINANCIAL LITERACY SURVEY 5 (2020), [https://digital.nfcc.org/wp-content/themes/foundation/assets/files/NFCC\\_Discover\\_2020\\_FLS\\_Datashet%20With%20Key%20Findings\\_Clean.pdf](https://digital.nfcc.org/wp-content/themes/foundation/assets/files/NFCC_Discover_2020_FLS_Datashet%20With%20Key%20Findings_Clean.pdf).

58. Lusardi et al., *supra* note 54, at 376–77.

tests.<sup>59</sup> Acknowledging the many problems and difficulties associated with the lack of appropriate financial education for Americans, the Financial Literacy and Education Commission, established under the Fair and Accurate Credit Transactions Act of 2003, declared a “National Strategy” for financial literacy in 2020, seeking to establish a new program.<sup>60</sup> However, it is clear that much more will need to occur for children to develop a true financial orientation, especially given that a 2020 study by the Council for Economic Education found that only 17% of high schools surveyed required their students to study personal finance.<sup>61</sup>

Focusing on increasing financial literacy and teaching children about money, *Shark Tank* billionaire and fan of the flourishing fintech industry<sup>62</sup> Mark Cuban explored in the media and public appearances the idea of buying Dogecoin—the volatile cryptocurrency<sup>63</sup> Elon Musk has been publicly

59. NAT'L CTR. FOR EDUC. STAT., PISA 2018 U.S. RESULTS 63 (2020), [https://nces.ed.gov/surveys/pisa/pisa2018/pdf/PISA2018\\_compiled.pdf](https://nces.ed.gov/surveys/pisa/pisa2018/pdf/PISA2018_compiled.pdf).

60. U.S. FIN. LITERACY & EDUC. COMM'N, U.S. NATIONAL STRATEGY FOR FINANCIAL LITERACY 2020, at 7–11 (2020), <https://home.treasury.gov/system/files/136/US-National-Strategy-Financial-Literacy-2020.pdf>.

61. COUNCIL FOR ECON. EDUC., 2020 SURVEY OF THE STATES: ECONOMIC AND PERSONAL FINANCE EDUCATION IN OUR NATION'S SCHOOLS 7 (2020), <https://www.councilforeconed.org/wp-content/uploads/2020/02/2020-Survey-of-the-States.pdf>.

62. The fintech industry is characterized by the emergence of new technologies that facilitate connectivity and innovative mobile financial transactions of various kinds. For more on fintech and its impact on the financial industry see, for example, William Magnuson, *Regulating Fintech*, 71 VAND. L. REV. 1167, 1174 (2018) (“[T]he new breed of companies . . . specialize in providing financial services primarily through technologically enabled mobile and online platforms.”); Rory Van Loo, *Making Innovation More Competitive: The Case of Fintech*, 65 UCLA L. REV. 232, 239 (2018) (“Fintech is used here to refer to the relatively new category of companies whose business models are based on digital products[, but] leaves out legacy banks . . . which may now offer similar products but whose services originally lacked a digital component.”). See generally Nizan Geslevich Packin & Yafit Lev-Aretz, *Big Data and Social Netbanks: Are You Ready To Replace Your Bank?*, 53 HOUS. L. REV. 1211 (2016); Chris Brummer & Yesha Yadav, *Fintech and the Innovation Trilemma*, 107 GEO. L.J. 235 (2019); Howell E. Jackson, *The Nature of the Fintech Firm*, 61 J.L. & POL'Y 9 (2020). Commentators, in addition to industry participants, have argued that fintech could play a great role in increasing access to financial services for underserved, underbanked, and unbanked populations. See, e.g., Ravi Menon, Managing Dir. of the Monet. Auth. of Sing., Remarks at the Singapore FinTech Festival 2020 (Dec. 8, 2020), <https://www.bis.org/review/r201210c.htm> (“[W]hat FinTech can do for an inclusive society, using Singapore as an example. This is the vision: every citizen and every enterprise digitally enabled and financially included.”); Nizan Geslevich Packin, *Let FinTech Help Jumpstart the Economy*, FORBES (Apr. 8, 2020, 9:55 AM), <https://www.forbes.com/sites/nizangpackin/2020/04/08/let-fintech-help-jumpstart-the-economy/#693c2ff06c24>; EXEC. OFF. OF THE PRESIDENT, BIG DATA: A REPORT ON ALGORITHMIC SYSTEMS, OPPORTUNITY, AND CIVIL RIGHTS 11–12 (2016), [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016\\_0504\\_data\\_discrimination.pdf](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf); MARIANNE CROWE, MARY KEPLER & CYNTHIA MERRITT, THE U.S. REGULATORY LANDSCAPE FOR MOBILE PAYMENTS 8–9 (2012), <https://fraser.stlouisfed.org/title/us-regulatory-landscape-mobile-payments-6541> (explaining the government’s policy goal of financial inclusion, and discussing how it can be aided by mobile technologies).

63. Gregor Stuart Hunter, *Retail Wave Spurs Sevenfold Surge in Dogecoin into Crypto Top 10*, BLOOMBERG (Jan. 28, 2021, 10:10 PM), <https://www.bloomberg.com/news/articles/2021-01-29/retail-wave-spurs-sevenfold-surge-in-dogecoin-into-crypto-top-10>; David Goldman, *Dogecoin Tumbles After Elon Musk Jokes About It on ‘SNL,’ CNN BUS.*, <https://edition.cnn.com/2021/05/09/investing/dogecoin-elon-musk-snl/index.html> (May 10, 2021, 9:34 AM).

backing<sup>64</sup>—for his son as an “educational” activity.<sup>65</sup> Similarly, Twitter cofounder and Block CEO Jack Dorsey teamed up with entertainer Jay-Z to launch The Bitcoin Academy at Marcy Houses, the public housing complex in Brooklyn, New York.<sup>66</sup> As part of that initiative, “[t]he Bitcoin Academy’s website declares itself to represent ‘the future of money,’ and attendees will be given smartphones and MiFi devices, which they may keep as needed. There is also a ‘Crypto Kids Camp’ for kids aged 5 to 17.”<sup>67</sup> These methods of increasing financial literacy among children through cryptoasset<sup>68</sup> trading might be too much for some—certainly given how unpredictable<sup>69</sup> and less regulated<sup>70</sup> the crypto industry has proven to be—but teaching children about investing and saving is an age-old concept discussed long before the digital era. Indeed, even in the 1960’s film, *Mary Poppins*, the grumpy, ultraconservative Mr. Banks teaches his children about wise investing by describing compound interest.<sup>71</sup> Following more traditional approaches to financial education, the Consumer Financial Protection Bureau (CFPB)<sup>72</sup> created online content meant to help

64. Kevin Leyes, *Elon Musk Continues To Back Dogecoin over Its Competitors: Should You Take a Chance on the Meme Crypto?*, ENTREPRENEUR (May 28, 2021), <https://www.entrepreneur.com/article/372662>.

65. Taylor Locke, *Mark Cuban on Dogecoin: No Intrinsic Value but ‘I Bought a Few Dollars Worth for My Son’—It’s ‘Educational for Him,’* CNBC (Feb. 8, 2021, 1:51 PM), <https://www.cnbc.com/2021/02/08/mark-cuban-cryptocurrency-dogecoin-doesnt-have-intrinsic-value.html>.

66. Amanda Silberling, *Jay-Z and Jack Dorsey Launched a Bitcoin Academy in a Public Housing Complex*, TECHCRUNCH (June 9, 2022, 4:14 PM), <https://techcrunch.com/2022/06/09/jay-z-jack-dorsey-bitcoin-academy-marcy-public-housing/>.

67. Jordan Hoffman, *Jay-Z’s Bitcoin Academy Is Far from a Hit*, VANITY FAIR (June 18, 2022), <https://www.vanityfair.com/style/2022/06/jay-z-bitcoin-academy-is-far-from-a-hit>.

68. See, e.g., Ronald J. Mann, *Reliable Perfection of Security Interests in Crypto-Currency*, 21 SMU SCI. & TECH. L. REV. 159, 160–63 (2018) (explaining that cryptoassets do not fit exactly into any currently existing framework and should thus be considered “general intangibles” for the purposes of the UCC); Tara Mandjee, *Bitcoin, Its Legal Classification and Its Regulatory Framework*, 15 J. BUS. & SEC. L. 1, 64–66 (2014) (detailing the disagreements among regulators and courts regarding how to classify cryptoassets); Megan McDermott, *The Crypto Quandary: Is Bankruptcy Ready?*, 115 NW. U. L. REV. 1921, 1924 (2021) (describing the “[d]ebates surrounding the proper legal characterization of crypto assets like Bitcoin”); Susan Alkadri, Note, *Defining and Regulating Cryptocurrency: Fake Internet Money or Legitimate Medium of Exchange?*, 17 DUKE L. & TECH. REV. 71, 97 (2018) (stating that cryptocurrency should be treated as money or currency for regulatory purposes).

69. Lin Lin & Dominika Nestarcova, *Venture Capital in the Rise of Crypto Economy: Problems and Prospects*, 16 BERKELEY BUS. L.J. 533, 563–64 (2019) (“The value of crypto-assets is uncertain given the volatile nature of the crypto market. Furthermore, the accounting profession does not agree as to how such assets should be valued.”).

70. See Gary Gensler, Chairman, SEC, Remarks Before the Aspen Security Forum (Aug. 3, 2021), <https://www.sec.gov/news/public-statement/gensler-aspen-security-forum-2021-08-03>; Asress Adimi Gikay, *Regulating Decentralized Cryptocurrencies Under Payment Services Law: Lessons from European Union Law*, 9 J.L. TECH. & INTERNET 1, 2 (2018) (“The only constant is the fast evolution of cryptocurrencies and businesses centered on them and the lack of robust legal framework regulating them in many areas.”); Sarah Jane Hughes & Stephen T. Middlebrook, *Advancing a Framework for Regulating Cryptocurrency Payments Intermediaries*, 32 YALE J. ON REG. 495, 495 (2015) (“[T]he operation of wallets and exchanges requires a new commercial law that lays out rights and liabilities of cryptocurrency users in a robust and transparent fashion.”).

71. MARY POPPINS (Walt Disney Productions 1964).

72. See Van Loo, *supra* note 62, at 237. Van Loo explains how the CFPB and its main goal came to life. See *id.* (“[P]rior to the 2008 financial crisis, banking regulators carried a dual mission of protecting consumers and ensuring financial stability. This pairing subordinated consumer protection to stability. To solve this problem in the wake of the subprime mortgage crisis, Congress launched a new agency, the Consumer Financial



caregivers teach children about money.<sup>73</sup> Similarly, the Federal Deposit Insurance Corporation created a “Money Smart” curriculum that includes references, books, and links for financial informational purposes for children as young as prekindergarten to the second grade.<sup>74</sup> Despite the available resources and the clear need for caregivers to teach children about money, many do not do so, with only 37% of Americans actually talking to their their children about money.<sup>75</sup>

## II. PLAYING WITH MONEY?

### A. FINTECH APPS FOR CHILDREN: A GROWING BUSINESS TREND

Several years ago, a number of fintech companies began to identify the financial-education market opportunity and explore the potential of that business niche. Among the first to offer financial services to children was Greenlight, which was founded in 2014 and reached unicorn status—being valued at more than \$1 billion—within a few years.<sup>76</sup> Greenlight generates revenue largely by selling monthly subscriptions to families who use its services.<sup>77</sup> It started with launching a debit card for children in 2017, and later branched out by offering various digital financial services to children as young as six years old.<sup>78</sup> Though six years old may sound too young for children to be using financial apps on a smart device, by age six children are already veteran consumers of smart device content. In fact, studies have shown that 30% of American children start spending time playing with digital devices while they are still in diapers.<sup>79</sup> Likewise, the average age of children owning<sup>80</sup> and using<sup>81</sup> digital devices continues to drastically drop all over the world as their daily screen time continues to grow. Indeed, prior to the COVID-19 pandemic, American children ages eight to twelve spent, on average, between four and six hours per day using

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Protection Bureau (CFPB). The CFPB took over most of stability regulators’ consumer protection powers but has no stability mission.”)

73. See, e.g., *Build Your Child’s Money Skills While You Read*, CFPB, <https://www.consumerfinance.gov/consumer-tools/money-as-you-grow/bookshelf/> (last visited Jan. 28, 2023).

74. *Money Smart: Grades Pre-K–2*, FDIC, <https://www.fdic.gov/resources/consumers/money-smart/teach-money-smart/money-smart-for-young-people/grades-pre-k-2.html> (Feb. 2, 2022).

75. Press Release, Am. Psych. Ass’n, *Stress in America: Paying with Our Health 8* (Feb. 4, 2015), <https://www.apa.org/news/press/releases/stress/2014/stress-report.pdf>.

76. See Haverstock, *supra* note 5. Covering the company’s success, mainstream media reports in late 2021 suggested that the company is considering an IPO. Mark Maurer, *Children’s Finance App Greenlight Names CFO as It Prepares for IPO*, WALL ST. J. (Dec. 7, 2021, 6:45 AM), <https://www.wsj.com/articles/childrens-finance-app-greenlight-names-cfo-as-it-prepares-for-ipo-11638877500>.

77. Haverstock, *supra* note 5.

78. *Id.*

79. COMMON SENSE MEDIA, *THE COMMON SENSE CENSUS: MEDIA USE BY KIDS AGE ZERO TO EIGHT 19* (2017).

80. See UNICEF, *supra* note 4; COMMON SENSE MEDIA, *supra* note 79, at 23.

81. Antony Funnell, *What We’re Beginning To Understand About Preschool Kids and Their Digital Devices*, ABC NEWS, <https://www.abc.net.au/news/2020-06-12/pre-school-kids-digital-devices-internet-tech-safety/12338772> (June 11, 2020, 8:28 PM); COMMON SENSE MEDIA, *supra* note 79, at 3.

their digital devices, while teens spent up to nine hours per day.<sup>82</sup> Since the COVID-19 pandemic began, the average amount of time children and teens spend on the internet has nearly doubled, with children spending “an average of 7.7 hours a day in front of a screen, up from pre-pandemic estimates.”<sup>83</sup> With children becoming more and more comfortable using their smart devices, spending time downloading apps, and playing different online games, offering them fintech and DeFi apps and games is becoming more common.

The potential of the new children’s fintech and DeFi apps and games market is valuable for two reasons. First, reaching more audiences and getting more customers is typically a positive thing for businesses. Second, child and teenage customers will eventually mature into traditional adult customers, who will presumably continue using the services they are familiar with from childhood. Not wanting to lag behind their fintech competitors, some traditional financial institutions recently decided to offer financial services to minors. These financial institutions include Fidelity Investments, which in 2021 shared its plan to give thirteen- to seventeen-year-olds debit cards, savings accounts, and even access to an investment service that would allow young teens to trade U.S. listed stocks, mutual funds, and ETFs under parental supervision;<sup>84</sup> Capitol One, which started offering children’s bank accounts;<sup>85</sup> and Bank of America, which also started marketing bank accounts to children.<sup>86</sup>

#### B. DEFI, GAMEFI, AND PLAY TO EARN

With the rise of DeFi and the growing popularity of decentralized autonomous organizations (DAOs),<sup>87</sup> some business entities have started to understand the innovative new business models and revenue opportunities that lie in blockchain and digital assets, such as non-fungible tokens (NFTs).<sup>88</sup>

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82. *Screen Time and Children*, AM. ACAD. OF CHILD & ADOLESCENT PSYCHIATRY, [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/Children-And-Watching-TV-054.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Children-And-Watching-TV-054.aspx) (Feb. 2020).

83. Megan Marples, *Kids Nearly Doubled Screen Time During the Pandemic, but There Is Something You Can Do About It*, CNN HEALTH (Nov. 1, 2021, 4:50 PM), <https://www.cnn.com/2021/11/01/health/children-screen-time-increase-pandemic-study-wellness/index.html>.

84. See Hansen, *supra* note 5.

85. See *Kids Savings Account*, *supra* note 5.

86. See *What To Know About Savings Accounts for Kids*, *supra* note 5.

87. “DAOs are distributed, peer-to-peer computer software that incorporate governance and decisionmaking [procedures and] rules.” Carla L. Reyes, *If Rockefeller Were a Coder*, 87 GEO. WASH. L. REV. 373, 377 n.22 (2019). “Essentially, DAOs are elaborate smart contracts or systems of smart contracts. At a very general level, the smart contracts that comprise a DAO allow a certain set of DAO members to spend the digital assets held by those smart contracts or to modify the DAO’s code.” *Id.* at 387. For a deeper explanation on decentralized governance see, for example, Carla L. Reyes, Nizan Geslevich Packin & Benjamin P. Edwards, *Distributed Governance*, 59 WM. & MARY L. REV. ONLINE 1, 5 (2017).

88. NFTs are digital assets that represent real-world objects such as art, music, and videos. See Juliet M. Moringiello & Christopher K. Odinet, *The Property Law of Tokens*, 74 FLA. L. REV. 607, 631 (2022) (“The choices are art, music, videos, collectibles, sports, and utility.”). For a deeper explanation on NFTs and their legal status see, for example, Moringiello & Odinet, *supra*, at 663; Brian L. Frye, *After Copyright: Pwning NFTs in a Clout Economy*, 45 COLUM. J.L. & ARTS 341, 348 (2022); see also Mike Isaac & Kellen Browning, *Crypto*

Among these new business models and revenue opportunities is GameFi,<sup>89</sup> which refers to “video games with decentralized financial components that are backed by blockchain technology,”<sup>90</sup> and has become very popular in the gaming and blockchain industries.<sup>91</sup> GameFi allows players to own different virtual elements of games, such as skins, characters, objects, and even areas of the actual game.<sup>92</sup> Moreover, although some games reward players virtual coins in the form of game points that can only hold value within the game, other games reward players with real cryptocurrencies.<sup>93</sup> This latter category of games—a “symptom of a long-brewing problem in Western economies[,] ‘the financialization of everything’”<sup>94</sup>—operates based on a model that has been nicknamed “play-to-earn” (P2E), or “earn-to-play” (E2P).<sup>95</sup> It is characterized by blockchain-enabled games that focus on generating value for players by shifting the paradigm and allowing players to better capture the utility and value of assets they acquire through gameplay and in-game purchases.<sup>96</sup> For example, when a player purchases a shield upgrade in a traditional game, their only benefit is improved gameplay within that game. But in a blockchain-based gaming ecosystem that utilizes cross-platform NFTs, that very same shield can be tokenized into transferable assets that can prove useful in other, interconnected games and can be exchanged for different digital assets or even money.<sup>97</sup>

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*Enthusiasts Meet Their Match: Angry Gamers*, N.Y. TIMES, <https://www.nytimes.com/2022/01/15/technology/cryptocurrency-nft-gamers.html?searchResultPosition=1> (Jan. 19, 2022) (“For more than a year, crypto mania has been at a fever pitch. Cryptocurrencies such as Bitcoin and Ethereum have soared in value. Crypto-based assets like NFTs have taken off. Jack Dorsey, a Twitter founder, recently renamed one of his companies Block in honor of the blockchain, the distributed ledger system that powers digital currencies.”).

89. Yadav, *supra* note 6 (“The term GameFi comes from joining two words: games and decentralized finance (DeFi). It was first coined in a 2020 tweet by Andre Cronje, the CEO of Yearn Finance. . . . But the roots actually go back to 2013. Some early initiatives in this field included bitcoin integrations in Minecraft servers and other games like Bomberman that rewarded players with real Bitcoins.”).

90. *Id.*

91. See, e.g., Paul Tassi, *Reddit Cofounder Says 90% of Games in 5 Years Will Be Blockchain ‘Play-To-Earn’ Titles*, FORBES (Jan. 17, 2022, 10:41 AM), <https://www.forbes.com/sites/paultassi/2022/01/17/reddit-cofounder-says-90-of-games-in-5-years-will-be-blockchain-play-to-earn-titles/?sh=415c803914b1> (describing how Reddit’s cofounder believes that “in five years, 90% of gamers will be playing games on the blockchain that allow them to ‘earn’ value by their loot/currency having some sort of token equivalent that has actual value”).

92. See Isaac & Browning, *supra* note 88 (describing how GSC Game World, the Ukrainian company behind the S.T.A.L.K.E.R. computer game, which has been popular with children for many years now, announced in December 2021 “that the new S.T.A.L.K.E.R. would incorporate the crypto-based assets known as nonfungible tokens, or NFTs,” and that “players could buy and sell NFTs of items like clothing for their in-game characters” in “a ‘transformative step’ toward the virtual world known as the metaverse”).

93. See Yadav, *supra* note 6.

94. Thompson, *supra* note 6.

95. See Isaac & Browning, *supra* note 88 (“One such game was CryptoKitties, a 2017 hit where players collected digital cats, some of which sold for more than \$100,000. In the pandemic, blockchain-based games like Axie Infinity, where players make money by earning and selling NFTs, also became popular.”).

96. See Udonis, *Play-To-Earn Games 101: How Do They Work?*, MEDIUM (Jan. 25, 2022), <https://medium.com/udonis/play-to-earn-games-101-how-do-they-work-56b07ad2117c>.

97. Roger W. Dorsey, Kyleen Prewett & Gaurav Kumar, *Taxation of NFTs*, 136 J. TAX’N 3, 5 (2022) (“The P2E movement has attracted millions of users across several blockchains. The P2E sector attracted 754,000 daily Unique Active Wallets (UAW) on average during the third quarter of 2021 . . .”).

Models like P2E represent a new intersection between gaming and finance that entirely undermines the way society views financial participation and wealth creation. Beyond banking the unbanked, P2E is a fun, game-based system that rewards time and skill rather than privilege, financial means, and even maturity and legal age.<sup>98</sup> The P2E model enables business entities such as Yield Guild Games (YGG) to invest across the blockchain “metaverse” by “farming” gaming assets and land parcels. For example, in the digital game Axie Infinity, YGG buys up Axies and then recruits potential players to play Axie Infinity using these Axies, which are lent to players. By doing so, YGG takes care of the upfront cost of the Axies, lowering the barrier of entry for players, and in return makes players split their earnings with the company.<sup>99</sup> These financial possibilities have made other game studios and companies express interest in P2E as well, but not everyone—young gamers included—is happy with this trend; some critics are even comparing P2E to a Ponzi scheme.<sup>100</sup> Nevertheless, some experts are fairly certain that the industry is changing.

[R]egular gaming could go the way of the dinosaur due to the play-to-earn gaming model. After all, there are opportunities for parents to create a wallet and allow their children or teenagers to play these games in the future, which would give them the opportunity to do things they couldn't do after playing an Xbox. For example, they could earn money to spend on real-world items, save for college, or save for the future.<sup>101</sup>

Echoing this sentiment, and the fear of missing out, in 2021 to 2022, mainstream news outlets featured the P2E trend and how it has resulted in children's financial success.<sup>102</sup> Yet there are many ethical and legal concerns around the P2E trend that merit much more careful coverage and attention, including significant issues relating to child labor (how many hours a day and starting at what age should children be permitted to play with the intention of earning a significant income?), taxation (who should pay taxes on the fruits of

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98. Beryl Li, *A Play-To-Earn Account Beats a Bank Account*, COINDESK, <https://www.coindesk.com/markets/2021/07/29/a-play-to-earn-account-beats-a-bank-account/> (Sept. 14, 2021, 6:33 AM).

99. Jillian Godsil, *Blockchain Games Take on the Mainstream: Here's How They Can Win*, COINTELEGRAPH (May 3, 2022), <https://cointelegraph.com/magazine/2022/05/03/can-p2e-gaming-grind-away-market-share-from-mainstream-games>.

100. See Isaac & Browning, *supra* note 88 (detailing the story of eighteen-year-old high schooler Christian Lantz, who for years played S.T.A.L.K.E.R. and was upset by the “transformative step” toward cryptoassets, joining thousands of other young fans on Twitter and Reddit who raged against this trend); see also Leeor Shimron, *Axie Infinity: Pernicious Pyramid Scheme or Gaming Breakthrough?*, FORBES (Aug. 13, 2022, 8:12 AM), <https://www.forbes.com/sites/leeorshimron/2022/08/13/axie-infinity-pernicious-pyramid-scheme-or-gaming-breakthrough/?sh=21e0e12674b3> (“Since players are required to purchase the in-game assets to participate[,] . . . analysts have begun to question whether the entire GameFi model is truly an innovative user acquisition strategy or just a plain vanilla pyramid scheme fueled by speculative hype.”).

101. Farrington, *supra* note 6; see also Joe Cortez, *How To Pick the Right Play-To-Earn Game for You*, COINDESK, <https://www.coindesk.com/learn/how-to-pick-the-right-play-to-earn-game-for-you/> (Mar. 10, 2022, 10:25 AM).

102. See, e.g., Cortez, *supra* note 101; Bryant Francis, *Opinion: Play-To-Earn Feels Like a Disaster Waiting To Happen*, GAME DEV. (Dec. 9, 2021), <https://www.gamedeveloper.com/culture/opinion-play-to-earn-feels-like-a-disaster-waiting-to-happen>.

game labor, and to which governments?), contract law (who should be the parties to a lawsuit dealing with a breach of contract that relates to a game's terms of service?), and financial regulation (should the SEC look into and regulate the P2E business model?).<sup>103</sup> Additionally, educational aspects beyond financial ones are involved in this trend, such as children's exposure to adult content like M-rated video games,<sup>104</sup> as well as potential privacy law issues far beyond the scope of this Article that relate to children's general engagement with digital and online platforms.<sup>105</sup>

### C. PATERNALISM AND SOCIAL RESPONSIBILITY

The rise of fintech and DeFi apps and games for children that offer them trading, earning, and investing services and other possibilities is a concerning trend, and one that regulators and scholars have largely ignored thus far.<sup>106</sup> After all, children are minors and legally defined as dependents, which means that they must have legal guardians who handle all their matters, especially financial ones. Children's limited legal, economic, and social rights are based on the presumably justifiable paternalistic approach that society adopted long ago,<sup>107</sup> although such an approach may be morally problematic.<sup>108</sup> The typical paternalistic explanation offered is that children lack the same functional

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103. Francis, *supra* note 102. For a deeper analysis of the applicability of federal securities laws to cryptocurrencies, cryptoassets, and crypto exchanges, see, for example, Yuliya Guseva, *The SEC, Digital Assets, and Game Theory*, 46 J. CORP. L. 629, 641 (2021); Thomas Lee Hazen, *Tulips, Oranges, Worms, and Coins – Virtual, Digital, or Crypto Currency and the Securities Laws*, 20 N.C. J.L. & TECH. 493, 499 (2019); Carol R. Goforth, *Cinderella's Slipper: A Better Approach to Regulating Cryptoassets as Securities*, 17 HASTINGS BUS. L.J. 271, 271 (2021).

104. See Francis, *supra* note 102; see also Sam Reynolds, *GameFi Faces Regulatory Headwinds in Major Asian Markets*, COINDESK, <https://www.coindesk.com/policy/2022/02/01/gamefi-faces-regulatory-headwinds-in-major-asian-markets/> (Feb. 1, 2022, 9:20 AM) (detailing how Asian regulators, appreciating the importance of some of these issues, have recently expressed concerns over the GameFi trend).

105. See, e.g., Nizan Geslevich Packin, *Protecting Our Children in Cyberspace: What Are We Missing?*, FORBES (Nov. 10, 2022, 10:12 PM), <https://www.forbes.com/sites/nizangpackin/2022/11/10/protecting-our-children-in-cyberspace-what-are-we-missing/?sh=7bbb2a572c42> (explaining why we need to devote more attention to the protection of children in cyberspace).

106. James Fallows Tierney, *Investment Games*, 72 DUKE L.J. 353, 359 (2022) (expressing concern over how the “law does not have a readymade theory” for addressing issues with children as potential investors and consumers and being exposed to digital engagement practices, and “underscor[ing] the urgent need for scholarship situating these practices in theory and doctrine”).

107. Paternalism usually involves competing claims between individual liberty and authoritative social control. R. George Wright, *Legal Paternalism and the Eclipse of Principle*, 71 U. MIA. L. REV. 194, 227–28 (2016); William Joseph Wagner, *The Contractual Reallocation of Procreative Resources and Parental Rights: The Natural Endowment Critique*, 41 CASE W. RES. L. REV. 1, 174–75 (1990) (“Although the idea of paternalism is anathema to liberalism, some degree of paternalism is unavoidable in law, because some members of society are less than autonomous. Paternalism, in fact, underlies all law dealing with the choices of infants and children, and it accounts for the law’s restriction on the right of children below the age of capacity to contract.”).

108. Samantha Godwin, *Children’s Capacities and Paternalism*, 24 J. ETHICS 307, 307 (2020).

abilities adults have,<sup>109</sup> limiting their ability to reason and make decisions.<sup>110</sup> This lack of capacity can lead to diminished legal power, often seen in the medical context wherein children have less independent decision-making authority, even though adults with the same level of capacity might have independent decision-making power.<sup>111</sup> Similarly, federal capacity doctrine—the rules determining whether and how children’s civil litigation proceeds—has stayed fundamentally the same for more than a century, and continues to assume that all children are incompetent to direct their own cases such that adults must litigate on their behalf.<sup>112</sup>

Children’s lack of legal capacity is also supported by well-documented research on their mental and physical abilities. For example, in many places, children are not allowed to cross the street by themselves before a certain age, and, although this is freedom limiting, it makes sense in light of scientific studies that show that children before age fourteen do not have the ability to properly assess and understand the risks related to crossing a busy street.<sup>113</sup>

Alternatively, another explanation is grounded in societal assumptions about adult autonomy<sup>114</sup> and a differing cost-benefit analysis for adults and children.<sup>115</sup> For example, there is a heightened concern for the non-welfare interests of adults, such as bodily integrity, avoidance of humiliation, and so on.<sup>116</sup> But there is a heightened concern for the welfare interests of children as compared to those of adults, because when children are harmed in certain ways, it is felt to be a greater tragedy than when adults suffer the same harms.<sup>117</sup>

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109. Not everyone agrees with this approach. *See, e.g., id.* (“If paternalism is often justified when needed to keep children safe from the negative consequences of their poor choices, then when adults make choices leading to the same negative consequences, what makes paternalism less justified? . . . What is not explained, however, is why paternalism would be justifiable for children, but not adults, when neither possess the relevant interest-promoting capacities—exactly the cases when paternalism toward adults might be considered.”).

110. *Id.* at 310.

111. *Id.* at 313.

112. *See generally* Lisa V. Martin, *Modernizing Capacity Doctrine*, 73 FLA. L. REV. 821 (2021).

113. *Why Children Struggle To Cross Busy Streets Safely*, SCIENCE DAILY (Apr. 20, 2017), <https://www.sciencedaily.com/releases/2017/04/170420090208.htm> (citing Elizabeth E. O’Neal, Yuanyuan Jiang, Lucas J. Franzen, Pooya Rahimian, Junghum Paul Yon, Joseph K. Kearney & Jodie M. Plumert, *Changes in Perception—Action Turning over Long Time Scales: How Children and Adults Perceive and Act on Dynamic Affordances When Crossing Roads*, 44 J. EXPERIMENTAL PSYCH.: HUM. PERCEPT. & PERFORM. 18, 18 (2018)); Richard Lewis, *Kids Struggle To Safely Cross Busy Streets*, FUTURITY (Apr. 24, 2017), <https://www.futurity.org/crossing-the-street-children-1409612-2/>.

114. Godwin, *supra* note 108, at 318–19.

115. *Id.* at 324.

116. *Id.*

117. *Id.* at 325 (“[The] practice of saving ‘women and children first’ in disasters, the tendency of the media to report child deaths separately from adult deaths, the greater willingness to provide government assistance to deprived children than equally deprived adults, and the way statistically minimal risks to children are often regarded as more politically or morally dire than statistically greater risks to adults.”). A recent, classic example of this is the reporting of the rare multisystem inflammatory syndrome (also known as Kawasaki disease) in children during the COVID-19 pandemic, despite the fact that overall, for the most part, children experienced very light symptoms of COVID-19 and have been rarely severely impacted by the virus. *See, e.g.,* Lindsey Tanner, *Most Kids with Serious Inflammatory Illness Had Mild Covid*, ASSOCIATED PRESS (Apr. 6, 2021), <https://apnews.com/article/us-news-coronavirus-pandemic-05e95129b7e9877f3e714b278d3deb68> (explaining

Similarly, people tend to judge the justifiability of the treatment of children under a consequentialist approach, whereas they normally judge the justifiability of the treatment of adults using deontological ethics, regardless of the consequences these adults' actions have on human welfare.<sup>118</sup>

#### D. CHILDREN'S RIGHTS

"Children's rights" is not a properly defined term,<sup>119</sup> and during the twentieth century it "has come to mean generally the intersection of human and legal rights as they apply to persons under 18 years of age."<sup>120</sup> In earlier centuries, children's rights did not exist as a distinct concept, and prior to the 1800s, children hardly had any legal rights.<sup>121</sup> They were frequently viewed in the eyes of the law as a special sort of property, "owned" by their families and guardians.<sup>122</sup> This is not to say children were not loved; parents have always cared for their children.<sup>123</sup> But historically, children were expected to work to make themselves useful and add value to their families.<sup>124</sup> Then, during the Industrial Revolution, children's work shifted from working on their relatives' or families' farms to providing labor in factories,<sup>125</sup> with poor children experiencing the worst conditions.<sup>126</sup> Additionally, parents were permitted to do

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that there were 3,185 U.S. reported cases in the media of children who developed the syndrome, which included thirty-six deaths, even though most of the 3.5 million U.S. children and teens who tested positive for COVID-19 in that same one-year period did not develop the syndrome).

118. Godwin, *supra* note 108, at 325 ("There are many instances where it is often thought that even if someone makes a decision that is demonstrably bad for them, their right as an adult to decide creates a duty of non-interference that trumps others' altruistic desires to intervene for their benefit, even if that person is left worse for it. It is far less common to think that a child's right to decide on anything creates a corresponding duty to respect that decision when it results in demonstrably bad consequences." (internal citation omitted)).

119. Warren Binford, *Rights of Children*, in MAX PLANCK ENCYCLOPEDIA OF COMPARATIVE CONSTITUTIONAL LAW (2017), <https://oxcon.ouplaw.com/view/10.1093/law-mpeccol/law-mpeccol-e81?prd=MPECCOL>.

120. *Id.*

121. Richard L. Cupp, Jr., *Children, Chimps, and Rights: Arguments from "Marginal" Cases*, 45 ARIZ. ST. L.J. 1, 6 (2013).

122. See, e.g., Stephen R. Amott, *Autonomy, Standing, and Children's Rights*, 33 WM. MITCHELL L. REV. 807, 809 (2007) ("[C]hildren were originally regarded as a species of property."); Stuart N. Hart, *From Property to Person Status: Historical Perspective on Children's Rights*, 46 AM. PSYCH. 53, 53 (1991) ("Children have recently emerged from hundreds of years of property status to be considered as persons.").

123. There are many biblical stories about the loving relationship between parents and children. See, e.g., *Genesis* 25:24–28 (Isaac and Jacob); *Genesis* 37:1–3 (Jacob and Joseph); *Exodus* 2:1–3 (Moses).

124. See, e.g., Amott, *supra* note 122, at 809 (analyzing the treatment of children in historic Greece, where "abandoning a child did not count as homicide," "children could be sold into slavery[,] and parents were under no legal obligation to raise children").

125. See 2 MARVIN PERRY, MYRNA CHASE, JAMES R. JACOB, MARGARET C. JACOB & THEODORE H. VON LAUE, *WESTERN CIVILIZATION: IDEAS, POLITICS, AND SOCIETY* 513 (9th ed. 2009) (describing children as economic assets during the Industrial Revolution).

126. MICHAEL BOURDILLON, DEBORAH LEVISON, WILLIAM MYERS & BEN WHITE, *RIGHTS AND WRONGS OF CHILDREN'S WORK* 43 (2010) (analyzing how during the Industrial Revolution, child employment was very much related to class); Peter Kirby, *History of Child Labor in Britain*, in *THE WORLD OF CHILD LABOR: AN HISTORICAL AND REGIONAL SURVEY* 546–48 (Hugh D. Hindman ed., 2009) (discussing the employment of poor, orphaned, apprentice children who "lived in the worst conditions, experienced the longest hours of work, and were placed in the greatest risk of accidents").

as they saw fit with their children.<sup>127</sup> Religious institutions expected their members to treat the father as the head of the family and considered him to be the ultimate authority responsible for the education of the family's children.<sup>128</sup> But as decades and even centuries passed, this approach toward children began to evolve, and reforms to protect children that were mainly meant to address the abuses associated with the Industrial Revolution were implemented,<sup>129</sup> despite the economic disincentives for restricting child labor.<sup>130</sup>

During the twentieth century, the concept of children's rights came to mean "the intersection of human and legal rights as they apply to persons under 18 years of age."<sup>131</sup> In the United States, a crucial period in which "children's movements" were developed occurred in the late 1800s and the early years of the 1900s<sup>132</sup>—a few decades often referred to by scholars as "the Progressive Era."<sup>133</sup> During those decades, the American cultural perception of children's well-being went from being a purely domestic matter to an issue for which regulators became responsible and had to carefully address.<sup>134</sup> The progressives pushing for the change lobbied for society to acknowledge its duties toward children and pushed for legal reforms to protect them.<sup>135</sup> These progressives wanted to create a better society by designing an improved environment for children. But the Progressive Era children-related reforms were not based on and did not use the terminology of rights. Instead, the progressives built their efforts on ethical frameworks, especially those relating to society's responsibility toward children, and on the practical reasoning that protected, educated, and nurtured children would better contribute to society's future and success.<sup>136</sup> Then, several decades later in the 1960s, "children's movements" became even more powerful, and the children's rights era, which we are still experiencing,

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127. See Jerry L. Anderson, *Protection for the Powerless: Political Economy History Lessons for the Animal Welfare Movement*, 4 STAN. J. ANIMAL L. & POL'Y 1, 20 (2011).

128. See ROGER COX, SHAPING CHILDHOOD: THEMES OF UNCERTAINTY IN THE HISTORY OF ADULT – CHILD RELATIONSHIPS 41 (1996) (portraying the father as someone with the "ultimate responsibility" for his family); STEVEN MINTZ & SUSAN KELLOGG, DOMESTIC REVOLUTIONS: A SOCIAL HISTORY OF AMERICAN FAMILY LIFE 1 (1988) (analyzing perceptions concerning a father's authority).

129. Anderson, *supra* note 127, at 58.

130. Cupp, *supra* note 121, at 9.

131. Binford, *supra* note 119, at 1.

132. MARTIN GUGGENHEIM, WHAT'S WRONG WITH CHILDREN'S RIGHTS 1 (2005).

133. *Id.*; see also Cupp, *supra* note 121, at 9; MICHAEL D. GRIMES, PATCHING UP THE CRACKS: A CASE STUDY OF JUVENILE COURT REFORM 6 (2005) ("The third period in the history of the evolution of children's rights was the Progressive Era, a period that literally 'straddled' the end of the nineteenth century and the beginning of the twentieth (1890–1920).").

134. See GUGGENHEIM, *supra* note 132, at 1–2.

135. *Id.*; see also Martha Minow, *What Ever Happened to Children's Rights?*, 80 MINN. L. REV. 267, 280 (1995) (detailing how limitations on child labor and compulsory education were the result of the Progressive Era's reforms).

136. See, e.g., C.R. Margolin, *Salvation Versus Liberation: The Movement for Children's Rights in a Historical Context*, 25 SOC. PROBS. 441, 443 (1978) ("The Progressive Era brought dramatic increases in the educational and welfare systems, and decreases in child labor.").



officially began.<sup>137</sup> As part of this era’s global revolution, dozens of countries started recognizing children’s rights to things like education, identity, freedom from discrimination, family relations, protection from abuse and exploitation, and much more.<sup>138</sup> Taking it a step further, some countries even went as far as recognizing children’s political and socioeconomic rights.<sup>139</sup> Finally, the United Nations Convention on the Rights of the Child, adopted in 1989, reinforced the importance of protecting children’s interests, stating that “[i]n all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, administrative authorities or legislative bodies, the best interests of the child shall be a primary consideration.”<sup>140</sup>

These new rights and the shift into a new children-empowering era challenged the paternalism of earlier periods, as this new era was founded on a rights paradigm, not a welfare paradigm.<sup>141</sup> Furthermore, this change was part of a bigger shift associated with the civil rights and women’s rights movements.<sup>142</sup> Yet the focus on creating a rights paradigm for children was linked to a collective feeling that children deserved to have rights<sup>143</sup> because of their humanity and because they should not be treated as second-class citizens.<sup>144</sup> However, “children’s law” is not a single body of law with a coherent set of principles,<sup>145</sup> even though one common theme extends across the many bodies of law that apply to children—namely, that the differences associated with children’s developmental levels justifies distinct treatment in various contexts.<sup>146</sup>

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137. See Cupp, *supra* note 121, at 11–12; DAVID ARCHARD, CHILDREN: RIGHTS AND CHILDHOOD 70 (2d ed. 2004) (“The roots of the children’s liberation movement lay in the general ferment of the 1960s . . .”); JOHN T. PARDECK, CHILDREN’S RIGHTS: POLICY AND PRACTICE 1 (2d ed. 2006) (stating that the children’s rights movement commenced in the 1960s).

138. Binford, *supra* note 119, at 1.

139. *Id.*

140. U.N. Convention on the Rights of the Child art. 3(1), Nov. 20, 1989, 1577 U.N.T.S. 3.

141. MICHAEL KING, MORAL AGENDAS FOR CHILDREN’S WELFARE 129 (1999) (citing the rights paradigm).

142. VIRGINIA SMITH, RESHAPING THE WORLD FOR THE 21ST CENTURY: SOCIETY AND GROWTH 80 (2002) (describing how many different weaker or marginalized groups became more powerful in the 1960s); MARY ANN GLENDON, RIGHTS TALK: THE IMPOVERISHMENT OF POLITICAL DISCOURSE 5 (1991) (describing the era as one smitten by the “romance of rights”).

143. See, e.g., Maria Grahn-Farley, *A Theory of Child Rights*, 57 U. MIA. L. REV. 867, 878 (2003) (proposing a new tripartite framework of relationships, responsibilities, and rights that aims to transform how law treats children and their interactions with others); Anne C. Dailey & Laura A. Rosenbury, *The New Law of the Child*, 127 YALE L.J. 1448, 1451 (2018).

144. RICHARD FARSON, BIRTHRIGHTS: A BILL OF RIGHTS FOR CHILDREN 1 (1974).

145. Buss, *supra* note 10, at 42.

146. Buss, *supra* note 11, at 267.

## E. LEGALLY ENABLED MINORS

According to U.S. contract law, which developed from English law, minors can enter into contractual transactions,<sup>147</sup> but in a different way than consenting adults do: minors can choose to void the contracts and thereby avoid having to perform or honor them.<sup>148</sup> Avoidance is allowed during minority and for a reasonable time period after reaching adulthood, unless the minor ratifies the contract as an adult.<sup>149</sup> However, there are two common exceptions to this general rule. First, minors cannot void contracts for necessities.<sup>150</sup> Second, disaffirmance requires that minors return the benefits received as consideration for the contract.<sup>151</sup> Additionally, courts may not allow a minor to void a contract if an adult supervised the minor while entering into the contract, as that adult's supervision presumably mitigates the minor's lack of capacity.<sup>152</sup> Courts allow minors to void contracts partly because they do not want adults to exploit or take advantage of children's lack of capacity.<sup>153</sup> To do so, courts rely on a developed common-law standard based on a minor's age rather than on an assessment of a minor's capacity.<sup>154</sup>

In light of this framework, commentators have raised concerns that when transacting online, minors may enter into transactions with adults who may not

147. See generally, e.g., 5 WILLISTON ON CONTRACTS § 9:5, Westlaw (database updated May 2022); Samuel Williston, *The Progress of the Law, 1919-1920*, 34 HARV. L. REV. 741 (1921); Keith A. Rowley, *A Brief History of Anticipatory Repudiation in American Contract Law*, 69 U. CIN. L. REV. 565 (2001).

148. The scholarship has addressed minors' contractual rights and the use of the infancy defense to disaffirm online contracts. See Wayne R. Barnes, *Arrested Development: Rethinking the Contract Age of Majority for the Twenty-First Century Adolescent*, 76 MD. L. REV. 405, 438-43 (2017) (arguing for a higher age for minors to enter into contracts); Vivian E. Hamilton, *Adulthood in Law and Culture*, 91 TUL. L. REV. 55, 61-80 (2016) (discussing the age of majority); Wallace J. Mlyniec, *A Judge's Ethical Dilemma: Assessing a Child's Capacity To Choose*, 64 FORDHAM L. REV. 1873, 1900-15 (1996) (analyzing minors' decision-making capacity); Jonathan Todres, *Maturity*, 48 HOUS. L. REV. 1107, 1126 (2012) (advocating for a more legally and culturally cohesive understanding of individuals' maturity).

149. BRIAN A. BLUM & AMY C. BUSHAW, CONTRACTS: CASES, DISCUSSION, AND PROBLEMS 422 (2003).

150. See, e.g., Cheryl B. Preston & Brandon T. Crowther, *Infancy Doctrine Inquiries*, 52 SANTA CLARA L. REV. 47, 52 (2012); *Yurek v. Shaffer*, 678 S.E.2d 738, 748 (N.C. 2009).

151. See I.C. *ex rel.* Solovsky v. Delta Galil USA, 135 F. Supp. 3d 196, 210 (S.D.N.Y. 2015) (preventing a child from voiding a contract to regain control of her design when her design had gained fame from the other party's work); Preston & Crowther, *supra* note 150, at 50-51 ("A few jurisdictions . . . allow[] the minor to keep the benefit derived, and even recoup any consideration already transferred to the adult.")

152. HOWARD O. HUNTER, MODERN LAW OF CONTRACTS § 2:4, Westlaw (database updated Mar. 2022) (citing *Roe v. Gunnery, Inc.*, No. HHDCV115035705, 2013 WL 1849284, at \*2 (Conn. Super. Ct. Apr. 10, 2013)). For other exceptions, see Preston & Crowther, *supra* note 150, at 51-63.

153. E.g., *Eriksson v. Nunnink*, 233 Cal. Rptr. 234, 245 (Cal. Ct. App. 2015); *Doe v. Town of Greenwich*, 473 F. Supp. 3d 54, 59 (D. Conn. 2020) (quoting *Yale Diagnostic Radiology v. Est. of Harun Fountain*, 267 Conn. 351, 356 (2004)) ("The traditional reasoning . . . [is] that the law should protect children from the detrimental consequences of their youthful and improvident acts . . . . The rule is further supported by a policy of protecting children from unscrupulous individuals seeking to profit from their youth and inexperience."); Cheryl B. Preston & Brandon T. Crowther, *Minor Restrictions: Adolescence Across Legal Disciplines, the Infancy Doctrine, and the Restatement (Third) of Restitution and Unjust Enrichment*, 61 U. KAN. L. REV. 343, 356-57 (2012) (explaining that contract law prevents adults from "[lur[ing] children into improvident transactions").

154. Preston & Crowther, *supra* note 150, at 50.

be able to know precisely how old users are.<sup>155</sup> This is especially concerning because of how easy it is for children who lack capacity to “click” on contracts without any understanding of the complex legal jargon and terms that online service providers reference in their contracts.<sup>156</sup> Some courts have, in the digital context, broadly enforced contracts against children by determining that children who benefitted from the use of online services should be held accountable to their part of the contract.<sup>157</sup> Legal scholarship and courts have discussed children’s digital contractual rights, including issues such as their online financial power.<sup>158</sup>

[However,] scholars and commentators have been silent regarding property interests that minors may have in digital assets and whether those property interests give rise to the right to devise. With the advent of a digital marketplace and with the significant participation of minors in that marketplace, capacity standards for minors have begun to evolve, especially in contract law. Like contracts, property is transitioning into a digital form, and the law needs to transition with it.<sup>159</sup>

### III. FINANCIAL INCLUSION GONE WRONG: SOME REFLECTIONS ON POLICY IMPLICATIONS

#### A. GAMIFICATION IN A DIGITAL WORLD: CHILDREN’S PHYSICAL AND MENTAL HEALTH AND DEVELOPMENT

Fintech and DeFi apps and games can help educate people in general, and children in particular, about the value of money, investing, and even the risks of trading. However, these apps and games’ ability to do so is largely connected with their gamification features. This is because gamification makes challenging, stressful, and anxiety-causing assignments like handling financial matters feel less intimidating, given the game-like nature of the exercise. In light of its powerful influence on increased engagement, gamification as a practice has seen significant growth over the past decade in various areas, ranging from financial risk management to healthcare, and even to the workplace.<sup>160</sup> By

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155. *Id.* at 66.

156. *See* Barnes, *supra* note 148, at 445.

157. Natalie M. Banta, *Minors and Digital Asset Succession*, 104 IOWA L. REV. 1699, 1724 (2019); *see also* A.V. v. iParadigms, Ltd., 544 F. Supp. 2d 473, 480–81 (E.D. Va. 2008) (enforcing an online service contract because the minors benefitted by being able to upload their papers for class), *aff’d in part and rev’d in part on other grounds sub nom.*, A.V. *ex rel.* Vanderhye v. iParadigms, LLC, 562 F.3d 630 (4th Cir. 2009); C.M.D. v. Facebook, Inc., No. C 12-1216, 2014 WL 1266291, at \*1, \*4 (N.D. Cal. Mar. 26, 2014) (allowing Facebook to use minors’ photos because the minors continued using Facebook).

158. *See, e.g.*, Cheryl B. Preston, *CyberInfants*, 39 PEPP. L. REV. 225, 268 (2012) (discussing the spending power of teens and describing how online transactions have worried commentators); James Chang & Farnaz Alemi, *Gaming the System: A Critique of Minors’ Privilege To Disaffirm Online Contracts*, 2 U.C. IRVINE L. REV. 627, 657 (2012) (discussing financial transactions online).

159. Banta, *supra* note 157, at 1703.

160. *See* Chad Richards, Craig W. Thompson & T.C. Nicholas Graham, *Beyond Designing for Motivation: The Importance of Context in Gamification*, in CHI PLAY 2014: PROCEEDINGS OF THE FIRST ACM SIGCHI

utilizing new technologies in the education world, digital gamified learning has quickly become a popular teaching tool that is widely used in lower and higher education environments.<sup>161</sup> Yet, like any tool, gamification has its advantages and disadvantages, certainly in relation to “playing” with money online and when the target audience is young users.

One primary disadvantage manifested in the January 2021 Robinhood-GameStop stock controversy.<sup>162</sup> It raised the concerns of regulators, including the Chair of the SEC, Gary Gensler,<sup>163</sup> among others,<sup>164</sup> as it became clear that embedding gamification features in fintech apps increases users’ interest in them.<sup>165</sup> In particular, “gamified” investment apps like Robinhood that use behavioral psychology to encourage frequent and often maladaptive trading activity came under scrutiny.<sup>166</sup> This is not to say that gamification features—the badges, rewards, score cards, and many other mechanisms that teachers, for example, have been using for years to interest, excite, reward, and sanction children—are a bad thing, and that we should deter people from wanting to “play” more. Indeed, gamification motivates individuals by making experiences and processes more enjoyable and interactive. When people engage in a task or project with a more enjoyable, play-like approach, their positive feelings toward that experience increase, and it is more likely that they will want to continue engaging in that task or project, perform better at it, and spend more time working on it, even when they are not required to do so.<sup>167</sup> Therefore, it is not surprising that fintech apps’ gamification features make investing and trading more appealing to all, including young users, who have opened investing and

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ANNUAL SYMPOSIUM ON COMPUTER-HUMAN INTERACTION IN PLAY, 217, 217–26 (2014). *See generally* WERBACH & HUNTER, *supra* note 17.

161. *See, e.g.*, Ian Glover, *Play as You Learn: Gamification as a Technique for Motivating Learners*, in PROCEEDINGS OF WORLD CONFERENCE ON EDUCATIONAL MULTIMEDIA, HYPERMEDIA AND TELLECOMMUNICATIONS 1999, 2000 (J. Herrington et al. eds., 2013); Theresa A. Papp, *Gamification Effects on Motivation and Learning: Application to Primary and College Students*, 8 INT’L J. FOR CROSS-DISCIPL. SUBJECTS EDUC. 3193, 3195–3201 (2017).

162. Oscar Gonzalez & David Priest, *Robinhood Backlash: What You Should Know About the GameStop Stock Controversy*, CNET (Mar. 17, 2021, 3:42 PM), <https://www.cnet.com/personal-finance/investing/robinhood-backlash-what-you-should-know-about-the-gamestop-stock-controversy/>.

163. Bob Pisani, *SEC Chair Gary Gensler Raises Concerns About Robinhood, Trading Gamification and Social Media Hype*, CNBC, <https://www.cnbc.com/2021/05/06/sec-chair-gary-gensler-raises-concerns-about-robinhood-trading-gamification-and-social-media-hype.html> (May 6, 2021, 9:51 AM).

164. Julia Boorstin, *Robinhood’s Disruptive Force: The Good, the Bad and the Controversy*, CNBC, <https://www.cnbc.com/2021/05/25/robinhoods-disruptive-trade-the-good-the-bad-and-the-controversy.html> (May 25, 2021, 7:55 AM).

165. *See, e.g.*, Annie Massa & Tracy Alloway, *Robinhood’s Role in the ‘Gamification’ of Investing*, BLOOMBERG, <https://www.bloomberg.com/news/articles/2020-12-19/robinhood-s-role-in-the-gamification-of-investing-quicktake> (July 15, 2021, 9:00 PM).

166. Kyle Langvardt & James Fallows Tierney, *On “Confetti Regulation”: The Wrong Way To Regulate Gamified Investing*, 131 YALE L.J.F. 717, 717 (2022).

167. Fiona Fui-Hoon Nah, Venkata Rajasekhar Telaprolu, Shashank Rallapalli & Pavani Rallapalli Venkata, *Gamification of Education Using Computer Games*, in HUMAN INTERFACE AND THE MANAGEMENT OF INFORMATION: INFORMATION AND INTERACTION FOR LEARNING, CULTURE, COLLABORATION, AND BUSINESS 99, 99 (2013).

trading accounts on such apps en masse like never before.<sup>168</sup> But one of the concerns with this dramatic increase in retail investor participation is that although using frictionless, highly gamified digital apps may seem easy and fun to young first-time investors, in reality, the stock market is likely the toughest place to earn money, and losing money is anything but fun.<sup>169</sup>

Despite considerable literature examining retail investment and in-depth research on the impact of new media and digital platforms on financial markets,<sup>170</sup> and legal scholarship on gambling<sup>171</sup> and the regulation of behavior,<sup>172</sup> academics have rarely discussed digital apps and games that direct

168. See, e.g., Angelita Williams & Eric Young, *New Research: Global Pandemic Brings Surge of New and Experienced Retail Investors into the Stock Market*, FINRA (Feb. 2, 2021), <https://www.finra.org/media-center/newsreleases/2021/new-research-global-pandemic-brings-surge-new-and-experienced-retail>.

169. See, e.g., Yun Li, *Options Trading Activity Hits Record Powered by Retail Investors, but Most Are Playing a Losing Game*, CNBC, <https://www.cnbc.com/2021/12/22/options-trading-activity-hits-record-powered-by-retail-investors.html> (Dec. 22, 2021, 9:16 PM) (“A record of 39 million options contracts have traded daily on average this year, rising 35% from 2020. Retail investors now account for more than 25% of this trading activity. However, the majority of these small-time traders are buying the most basic call and put options, which have a much lower probability of profit compared with advanced strategies like options spreads . . . [Also.] [i]n most cases, novice retail investors are paying more for bets with a lower probability of profit when a cheaper call spread with much higher chance of profit exists.”); Nithin Kamath, *No Easy Money: Less Than 1% Active Traders Beat Bank FDs*, ECON. TIMES, [https://economictimes.indiatimes.com/markets/stocks/news/no-easy-money-less-than-1-active-traders-beat-bank-fds/articleshow/88656009.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/markets/stocks/news/no-easy-money-less-than-1-active-traders-beat-bank-fds/articleshow/88656009.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst) (Jan. 3, 2022, 5:39 PM) (“We’ve seen a record number of new traders and investors in 2021. . . . In the long run, the stock market is probably the toughest place in the world to make easy money. Thanks to social media, countless people are lured into the markets and have a rosy view of trading. But the reality is less than 1% of active traders earn more money than a bank fixed deposit over a 3-year period.”).

170. See, e.g., Eric C. Chaffee, *Securities Regulation in Virtual Space*, 74 WASH. & LEE L. REV. 1387, 1390 (2017); Joshua Mitts, *A Legal Perspective on Technology and the Capital Markets: Social Media, Short Activism and the Algorithmic Revolution* 1 (Columbia L. & Econ., Working Paper No. 615, 2019), <https://ssrn.com/abstract=3447235>; Frank Pasquale, *Law’s Acceleration of Finance: Redefining the Problem of High-Frequency Trading*, 36 CARDOZO L. REV. 2085, 2086 (2015); Benjamin P. Edwards, *The Rise of Automated Investment Advice: Can Robo-Advisers Rescue the Retail Market?*, 93 CHI.-KENT L. REV. 97, 98 (2018); Van Loo, *supra* note 62, at 232; Brummer & Yadav, *supra* note 62, at 235; Nizan Geslevich Packin, *Consumer Finance and AI: The Death of Second Opinions?*, 22 N.Y.U. J. LEGIS. & PUB. POL’Y 319, 319 (2020); Kristin Johnson, Frank Pasquale & Jennifer Chapman, *Artificial Intelligence, Machine Learning, and Bias in Finance: Toward Responsible Innovation*, 88 FORDHAM L. REV. 499, 499 (2019); Juan Pablo Pardo-Guerra, *Where Are the Market Devices? Exploring the Links Between Regulation, Markets, and Technology at the Securities and Exchange Commission, 1935-2010*, 49 THEORY & SOC’Y 245, 271 (2020).

171. See, e.g., Marc Edelman, *Navigating the Legal Risks of Daily Fantasy Sports: A Detailed Primer in Federal and State Gambling Law*, 2016 U. ILL. L. REV. 117, 117 (2016); *Daily Fantasy Sports: Issues and Perspectives: Hearing Before the H. Subcomm. on Com., Mfg., & Trade of the Comm. on Energy & Com.*, 114th Cong. (2016) (prepared written statement of Ryan M. Rodenberg, Professor, Florida State University); Hiba Lopez-Gonzalez & Mark D. Griffiths, *Is European Online Gambling Regulation Adequately Addressing In-Play Betting Advertising?*, 20 GAMING L. REV. & ECON. 495, 495–503 (2016).

172. See, e.g., Kyle Langvardt, *Regulating Habit-Forming Technology*, 88 FORDHAM L. REV. 129, 129 (2019) (discussing technology’s influence on behavior and explaining that regulators should look to analogous regulatory techniques for addressing similar harms from other addictive technologies); OREN BAR-GILL, *SEDUCTION BY CONTRACT: LAW, ECONOMICS, AND PSYCHOLOGY IN CONSUMER MARKETS* 1 (2012) (discussing behavioral incentives to consumers and investors and explaining how consumer contracts emerge from the interaction between market forces and consumer psychology); YUVAL FELDMAN, *THE LAW OF GOOD PEOPLE: CHALLENGING STATES’ ABILITY TO REGULATE HUMAN BEHAVIOR* 1 (2018) (wondering whether we can effectively regulate human behavior).

retail traders' attention and influence their investments in general, and children's in particular.<sup>173</sup> Children, innovative financial services, and investments have never been examined together, leaving a serious gap in the legal literature. In 2021, focusing on broader issues, including the gamification features of financial services, the SEC sought to better understand the potential disadvantages associated with digital engagement practices by soliciting public comment on these features of online fintech service providers.<sup>174</sup> This request for public feedback was also a call for interdisciplinary literature in technology, psychology, and the law<sup>175</sup> that would focus on the potential disadvantages associated with gamification;<sup>176</sup> it did not, however, specifically mention children and emerging adults. Similarly, FINRA requested public feedback regarding its identified "risks associated with app-based platforms and 'game-like' features . . . intended to influence customers."<sup>177</sup> These requests for public input are important. Digital games are entertaining and widely used,<sup>178</sup> but they are especially problematic when dealing with young users. Researchers have found digital gaming to be an addictive activity for children<sup>179</sup> that contributes to screen-time addiction and causes health disorders.<sup>180</sup>

Additionally, and no less important, interactive "game-like" features such as point scoring, competitions among peers, and rules of play<sup>181</sup> can increase children's interest not just in online gaming, but also in other game-like activities. For instance, among such related activities are esports bets, which have an almost inherent appeal to children, teens, and young adults<sup>182</sup> and can

173. Jerry Markham mentions the Massachusetts securities regulators' lawsuit against Robinhood. Jerry W. Markham, *Regulating Broker-Dealer Investment Recommendations—Laying the Groundwork for the Next Financial Crisis*, 13 DREXEL L. REV. 377, 443 n.396 (2021). Additionally, several academic notes have also touched upon legal issues surrounding trading apps that democratize investing via technology. See, e.g., John R. Fallon, Note, *Equal Access to Investments: At Whose Expense?*, 21 WAKE FOREST J. BUS. & INTELL. PROP. L. 431, 467 (2021); Travis C. Studdard, *Riling Up as Recommendation: How Commission-Free Brokerages Recommend Active Investing to the Public*, 29 PUB. INVS. ADVOC. BAR ASS'N BAR J. 67, 67 (2022).

174. Request for Information and Comments on Broker-Dealer and Investment Adviser Digital Engagement Practices, Exchange Act Release No. 34-92766, 86 Fed. Reg. 49067, 49071 (Sept. 1, 2021) (requesting information and comments on broker-dealer and investment-adviser digital engagement practices).

175. Langvardt & Tierney, *supra* note 166, at 717.

176. Tierney, *supra* note 106, at 353.

177. FINRA, 2021 REPORT ON FINRA'S EXAMINATION AND RISK MONITORING PROGRAMS 2 (2021), <https://www.finra.org/sites/default/files/2021-02/2021-report-finras-examination-risk-monitoring-program.pdf>.

178. Jacob Leon Kröger, Philip Raschke, Jessica Percy Campbell & Stefan Ullrich, *Surveilling the Gamers: Privacy Impacts of the Video Game Industry*, 44 ENT. COMPUTING (forthcoming Jan. 2023), <https://ssrn.com/abstract=3881279> ("With many million users across all age groups and income levels, video games have become the world's leading entertainment industry.").

179. *Saving Children from Digital Gaming Addiction*, EDUCATIONWORLD, <https://www.educationworld.in/saving-children-from-digital-gaming-addiction/> (last visited Jan. 28, 2023).

180. See Anya Kamenetz, *Is 'Gaming Disorder' an Illness? WHO Says Yes, Adding It to Its List of Diseases*, NPR (May 28, 2019, 5:48 PM), <https://www.npr.org/2019/05/28/727585904/is-gaming-disorder-an-illness-the-who-says-yes-adding-it-to-its-list-of-diseases>.

181. Melanie Waddell, *FINRA Targets 'Game-Like' Digital Platforms*, THINKADVISOR (Feb. 3, 2021), <https://www.thinkadvisor.com/2021/02/03/finra-examiners-eye-game-like-digital-platforms/>.

182. See, e.g., Raffaello Rossi & Agnes Nairn, *How Children Are Being Targeted with Hidden Ads on Social Media*, YAHOO FIN. (Nov. 3, 2021), <https://uk.news.yahoo.com/children-being-targeted-hidden-ads-122439705>.

result in gambling addictions.<sup>183</sup> Similarly, scholars argue that social media apps function like casinos, in that they are designed to make users lose their sense of time with videos that start automatically and content feeds that can scroll on to infinity in attempts to keep children glued to their devices.<sup>184</sup> Put in simpler terms, digital games can function like “hard drugs” for children.<sup>185</sup> Being online, predominantly by web surfing or playing in interactive platforms, “acts like a stimulant,” like caffeine or cocaine.<sup>186</sup> The dopamine released by the stimulation from electronics hits children and teens particularly virulently because their cerebral cortexes are not fully developed to enable them to feel satisfied with small doses or to self-regulate.<sup>187</sup> So whether it is earning points in an unsophisticated video game, spending real money to acquire abilities in Roblox,<sup>188</sup> or trading stocks in a fintech app—an activity that is not only very addictive,<sup>189</sup> but also that 12% of young investors said they started because it “felt like a game”<sup>190</sup>—it is extremely difficult for children to stop and turn off their digital devices.

But increased screen time not only means more excitement and hours of games; it also has a negative effect on children’s physical and mental development. For example, increased screen time is linked to a higher risk of cognitive, linguistic, and emotional delays;<sup>191</sup> complications with children’s social-emotional advancement; decreased ability to self-regulate; problems

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183. Raffaello Rossi & Agnes Nairn, *Esports Could Be Quietly Spawning a Whole New Generation of Problem Gamblers*, THE CONVERSATION (Oct. 1, 2020, 11:37 AM), <https://theconversation.com/esports-could-be-quietly-spawning-a-whole-new-generation-of-problem-gamblers-147124>.

184. *Why Social Media Apps Are Like Casinos for Children*, DOT.LA (Mar. 21, 2022), <https://dot.la/social-media-addiction-2657010894.html> (citing Ed Howard, senior counsel at the University of San Diego School of Law’s Children’s Advocacy Institute).

185. Marika Lindholm, *Parenting in the Era of Addictive Electronics*, PSYCH. TODAY (July 13, 2017), <https://www.psychologytoday.com/us/blog/more-women-s-work/201707/parenting-in-the-era-addictive-electronics>.

186. *Id.*

187. *Id.*

188. Noah Brode, *Half of Roblox Users Say They’re Spending Money on the Platform Each Month*, CIVICSOCI. (Oct. 26, 2020), <https://civicscience.com/half-of-roblox-users-say-theyre-spending-money-on-the-platform-each-month/>.

189. Coryanne Hicks, *How To Tell If You’re Addicted to Day Trading*, U.S. NEWS (Apr. 22, 2019), <https://money.usnews.com/investing/investing-101/articles/how-to-tell-if-youre-addicted-to-day-trading>; see also Riccardo Guglielmo, Lucia Ioime & Luigi Janiri, *Is Pathological Trading an Overlooked Form of Addiction?*, 8 ADDICTION & HEALTH 207, 207–09 (2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5422017/pdf/AHJ-08-207.pdf> (outlining the “negative financial and psychosocial consequences” of pathological trading).

190. Emily Graffeo, *A Third of Young Traders Go to Social Media for Investment Advice – and 12% Say They Invest Because It ‘Feels Like a Game,’ Survey Finds*, BUS. INSIDER (Aug. 23, 2021, 7:30 AM), <https://markets.businessinsider.com/news/stocks/retail-investing-trends-robinhood-gamification-survey-social-media-trading-2021-8>.

191. Andrea Petersen, *Is Your Child a Digital Addict? Here’s What You Can Do*, N.Y. TIMES (Apr. 15, 2020), <https://www.nytimes.com/2020/04/15/parenting/big-kid/child-screen-addiction.html>.

developing the skills necessary to learn and apply math and science concepts;<sup>192</sup> increased anxiety; and even a tendency toward dishonesty in children.<sup>193</sup> The law has always “recognize[d] that children’s differences associated with their ongoing development justifies distinct treatment in a wide variety of regulatory contexts”;<sup>194</sup> understanding children’s developmental differences in this context is critical and merits a more protective legal treatment of children.

Finally, while many children and emerging adults think of digital games and interactive social media apps as fun and innocent entertainment, in reality, these games and apps pose a serious threat to consumers’ data and privacy,<sup>195</sup> especially when used by young, more naïve, and inexperienced users. Indeed, such users are often surveilled, and their choices, data, and even weaknesses are monetized and exploited, whether by parties trying to take advantage of inexperienced minors or by mainstream business models and schemes such as payment for order flow.<sup>196</sup>

## B. THE SERIOUSNESS OF MONEY

Gamifying investing makes it feel *less serious, not more serious*, contravening the very notion that early education will help young adults understand the seriousness of money. Indeed, gamification oversimplifies investing to the point that game outcomes lead novice investors to get in way over their heads.<sup>197</sup> Gamification for financial services is becoming the new

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192. Joanna Walters, *Tablets and Smartphones May Affect Social and Emotional Development, Scientists Speculate*, THE GUARDIAN (Feb. 2, 2015, 11:28 AM), <https://www.theguardian.com/technology/2015/feb/01/toddler-brains-research-smartphones-damage-social-development>.

193. *Screen Dependency Disorder: The Effects of ‘Screen Time’ Addiction*, NEUROHEALTH (Feb. 11, 2020), <https://nhhealth.com/screen-dependency-disorder-the-effects-of-screen-time-addiction/>.

194. Buss, *supra* note 11, at 267.

195. See Kröger et al., *supra* note 178 (“Since the workings of data collection and data mining are completely invisible to ordinary video game users, it can be impossible for them to understand and control what information is revealed. Sophisticated surveillance and assessment mechanisms can be imperceptibly woven into the fabric of game environments and storylines. The immersive and distractive nature of video games may further impede a reasonable reflection on the staggering scope of the data harvesting taking place and on potential data misuses. Considering the immense and growing popularity of video gaming, consumer education in this field is urgently needed, along with effective technical and legal safeguards.”).

196. See Theresa W. Carey, *Payment for Order Flow (PFOF): Definition, How It Works*, INVESTOPEDIA, <https://www.investopedia.com/terms/p/paymentfororderflow.asp> (July 4, 2022); see also, e.g., Matt Levine, *People Are Worried About Payment for Order Flow*, BLOOMBERG (Feb. 5, 2021, 9:09 AM), <https://www.bloomberg.com/opinion/articles/2021-02-05/robinhood-gamestop-saga-pressures-payment-for-order-flow>; Divya Seth, *Payment-for-Order-Flow Implications for Robinhood Users I* (Mar. 13, 2020) (unpublished manuscript), <https://ssrn.com/abstract=3779648> (highlighting problems associated with PFOF, assessing policies allowing it, and exploring policy alternatives); David Easley, Nicholas M. Kiefer & Maureen O’Hara, *Cream-Skimming or Profit-Sharing? The Curious Role of Purchased Order Flow*, 51 J. FIN. 811, 812–13 (1996).

197. Emma Stamm, *Robinhood’s Gamification of Investing Combines Surveillance Capitalism with Finance Capitalism*, VICE (Dec. 1, 2020, 6:00 AM), <https://www.vice.com/en/article/z3vm79/robinhood-the-gamification-of-investing-and-a-is-creating-a-new-type-of-economic-inscrutability>.



frontier for Generation Z<sup>198</sup> and even Generation Alpha,<sup>199</sup> who have enjoyed platforms such as Fortnite<sup>200</sup> and Brawl Stars<sup>201</sup> since infancy. Indeed, video games now make up the most significant entertainment market in the world in terms of size and magnitude.<sup>202</sup> Moreover, with the dawn of the new metaverse era,<sup>203</sup> cryptoassets such as NFTs<sup>204</sup> are beginning to play a central role in digital games.<sup>205</sup> But Generations Z and Alpha are taking this gamification-of-finance trend one step further. Using new platforms and apps such as the Sandbox

198. Joe Pinsker, *Oh No, They've Come Up with Another Generation Label*, THE ATLANTIC (Feb. 21, 2020), <https://www.theatlantic.com/family/archive/2020/02/generation-after-gen-z-named-alpha/606862/>; Kate Lindsay, *Are You Sure You're Not Guilty of the 'Millennial Pause'?*, THE ATLANTIC (Aug. 6, 2022), <https://www.theatlantic.com/technology/archive/2022/08/tiktok-gen-z-millennial-pause-parody/671069/>.

199. Pinsker, *supra* note 198.

200. Epic Games' Fortnite, which has about 250 million active players, is probably the most popular video game in the world and generated approximately \$3 billion in 2018 alone—profits far above those of the highest-grossing movie. Jon Russell, *Epic Games, the Creator of Fortnite, Banked a \$3 Billion Profit in 2018*, TECHCRUNCH (Dec. 27, 2018, 7:44 AM), <https://techcrunch.com/2018/12/27/epic-fortnite-3-billion-profit/>. One of the most financially successful movies of all time is *Avengers: Endgame*, which is estimated to have earned \$2.80 billion to date. Josh Jackson, *The Top 20 Highest-Grossing Movies of All Time Worldwide*, PASTE MAG. (Aug. 11, 2021, 4:14 PM), <https://www.pastemagazine.com/movies/highest-grossing-movies/the-highest-grossing-movies-of-all-time/>.

201. Supercell—based in Helsinki and responsible for several tremendously successful gaming platforms, including Brawl Stars, which went global in December 2018—published in February 2022 its reported revenues of \$2.24 billion and a before-tax profit of \$852 million for 2021, thanks to its 250 million monthly active players. See Dean Takahashi, *Supercell Makes \$852M on \$2.24 Billion in 2021 Revenue*, VENTUREBEAT: GAMESBEAT (Feb. 15, 2022, 12:30 AM), <https://venturebeat.com/2022/02/15/supercell-makes-852m-on-2-24-billion-in-2021-revenue/>.

202. Shani Shisha, *Fairness, Copyright, and Video Games: Hate the Game, Not the Player*, 31 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 694, 697–98 (2021) (“A recent study also suggests that some players think of *Fortnite* as their primary social media platform. Moreover, a recent poll found that a whopping 75% of Americans have at least one video game player in their household. Video games have likewise crept into other fora of mass media, and a growing cascade of movies and television shows are now premised on (or inspired by) video games—a clear indication of the cultural force that drives the video game market.”).

203. See, e.g., Brian X. Chen, *What's All the Hype About the Metaverse?*, N.Y. TIMES (Jan. 18, 2022), <https://www.nytimes.com/2022/01/18/technology/personaltech/metaverse-gaming-definition.html>; Nico Grant, *YouTube Plans To Make Gaming Videos Immersive in Metaverse Push*, BLOOMBERG (Feb. 10, 2022, 6:00 AM), <https://www.bloomberg.com/news/articles/2022-02-10/youtube-plans-to-make-gaming-videos-immersive-in-metaverse-push>.

204. Katya Fisher, *Once Upon a Time in NFT: Blockchain, Copyright, and the Right of First Sale Doctrine*, 37 CARDOZO ARTS & ENT. L.J. 629, 631 (2019); Taylor Locke, *NFT Trading Volume Hit \$10.7 Billion Last Quarter—Here Are 2 Reasons Why People Are Spending Thousands on Digital Assets*, CNBC (Oct. 6, 2021, 10:29 AM), <https://www.cnbc.com/2021/10/06/nft-trading-volume-hit-10-billion-2-reasons-why-people-are-buying.html>; Jane Hanson, *The NFT Market Is Exploding and Women Are Taking Charge*, FORBES (Nov. 30, 2021, 8:00 AM), <https://www.forbes.com/sites/janehanson/2021/11/30/the-nft-market-is-exploding-and-women-are-taking-charge/?sh=214825e042b0>.

205. See, e.g., Justin Birnbaum, *Why Video Game Makers See Huge Potential in Blockchain—and Why Problems Loom for Their New NFTs*, FORBES (Jan. 6, 2022, 7:00 AM), <https://www.forbes.com/sites/justinbirnbaum/2022/01/06/why-video-game-makers-see-huge-potential-in-blockchain-and-why-problems-loom-for-their-new-nfts/?sh=12b38ee343d7> (“Gaming-related NFTs generated \$4.8 billion of revenue in 2021, according to data from DappRadar, and represented roughly 20% of all NFT sales during the year, which includes popular items from NBA Top Shot, CryptoPunks and Board Ape Yacht Club.”); Julian Dosssett, *The Video Game Industry Was Hot on NFTs. Then Came Hacks and a Market Meltdown*, CNET (July 8, 2022, 5:00 AM), <https://www.cnet.com/personal-finance/crypto/features/nfts-are-coming-for-your-video-games-players-get-ready/>.

Alpha—which enables and encourages users to create, share, and sell digital assets like NFTs as part of a game and to receive financial incentives for doing so—users are encouraged to play, earn, and share digital assets and rewards with others.<sup>206</sup>

Regulation almost always lags behind innovation,<sup>207</sup> but regulators are now realizing that fintech apps and their playful interfaces have lured a new class of inexperienced and very young investors into the financial markets. And although Robinhood took most of the fire for doing so—with regulators filing complaints against it<sup>208</sup> and Congress criticizing its business model and investor protection procedures<sup>209</sup>—Robinhood is far from the only player in this new, entertaining space. Other fintech platforms such as WeBull and EToro have also captured the attention of inexperienced young traders,<sup>210</sup> who often base their financial decisions on social media content and on not wanting to “miss out”—a sentiment some of these platforms used to lure in young users through widely criticized Super Bowl commercials.<sup>211</sup> Indeed, according to a new study, social media is the most popular outlet for investment research for Generation Z and Generation Alpha retail investors.<sup>212</sup> These young traders are born investment “researchers,” when researching entails browsing TikTok and YouTube videos under trading-related hashtags or scrolling through the 100 most-held stocks among their

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206. See Tassi, *supra* note 91. The Sandbox Alpha, for example, calls users to “[s]tep into the Metaverse! Your chance to join the launch of a new era of gameplay is fast approaching . . . [T]he Sandbox Alpha is an open multi-week Play-to-Earn event . . . in which players will have the opportunity to explore The Sandbox Metaverse” and earn NFT rewards. *Introducing The Sandbox Alpha*, MEDIUM (Nov. 16, 2021), <https://medium.com/sandbox-game/introducing-the-sandbox-alpha-2052db44a9f9>; see also Beatrice Mastropietro, *What Is an Initial Game Offering (IGO)?*, COINSPEAKER (Nov. 3, 2021, 7:01 PM), <https://www.coinspeaker.com/guides/what-is-an-initial-game-offering-igo/> (“IGO stands for Initial Game offering, a new business model that combines the video game industry with crowdfunding. By combining these two industries, IGOs can reach out to their audience and gain more revenue by selling virtual items.”).

207. John W. Bagby & Nizan G. Packin, *RegTech and Predictive Lawmaking: Closing the RegLag Between Prospective Regulated Activity and Regulation*, 10 MICH. BUS. & ENTREPR. L. REV. 127, 127 (2021).

208. Annie Massa & Michael McDonald, *Robinhood Accused of ‘Gamification’ of Trading by Massachusetts Regulator*, FIN. POST (Dec. 16, 2020), <https://financialpost.com/investing/robinhood-accused-of-gamification-of-trading-by-massachusetts-regulator>.

209. Andrew Ross Sorkin, Jason Karaian, Michael J. de la Merced, Lauren Hirsch & Ephrat Livni, *‘Something Very Wrong Happened Here,’* N.Y. TIMES, <https://www.nytimes.com/2021/02/19/business/dealbook/robinhood-hearing-congress.html> (Mar. 12, 2021).

210. See Michael Wursthorn & Euirim Choi, *Does Robinhood Make It Too Easy To Trade? From Free Stocks to Confetti*, WALL ST. J., <https://www.wsj.com/articles/confetti-free-stocks-does-robinhoods-design-make-trading-too-easy-11597915801> (Aug. 20, 2020, 2:53 PM).

211. See, e.g., Taylor Locke, *‘To the Moon’: You Probably Saw the Crypto Super Bowl Ads—Here’s What To Know Before Buying In on the Hype*, CNBC, <https://www.cnbc.com/2022/02/14/what-to-know-about-crypto-before-buying-into-super-bowl-ads.html> (Feb. 15, 2022, 11:29 AM) (“While watching the Super Bowl, you probably saw some interesting advertisements by cryptocurrency companies like FTX, eToro and Crypto.com, among others, touting crypto to the masses. . . . It can be exciting, and for some, there’s a real fear of missing out. But it’s important to understand the risks of cryptocurrency before buying in. It may be difficult to take a step back amid the hype . . .”).

212. See Graffeo, *supra* note 190.

fellow app users.<sup>213</sup> But cool and fun fintech platforms do not make younger generations appropriately cautious about losing significant amounts of money, even though that is typically the case. For example, a 2016 study showed that 80% of private day traders lost money over the course of a year, with a median annual return of 36% loss for all traders.<sup>214</sup> And although financial losses are objectively upsetting, they are especially devastating to children and emerging adults taking their first steps in the financial markets, as was the case with twenty-year-old Alex Kearns, who committed suicide believing he owed \$750,000 for stock market losses on Robinhood.<sup>215</sup>

### C. THE INFLUENCE OF OUTSIDE PARTIES ON CHILDREN'S FINANCIAL CHOICES

Social influence plays a significant role in marketing, decision-making, and even financial behavior.<sup>216</sup> However, the level of popularity of the online social-influence industry in recent years has been beyond anyone's imagination.<sup>217</sup> Moreover, the increasing involvement of influencers in the stock market ranging from TikTok videos, which have become known as "FinTok,"<sup>218</sup> to Roaring Kitty's call on Reddit to hold or buy stocks,<sup>219</sup> and even to Kim Kardashian's viral post soliciting her 280 million followers to buy a cryptocurrency, has proven that social influencing has advanced to an entirely new level.<sup>220</sup> But

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213. *Id.* ("35% of investors aged 18-34 say they get investment ideas from social media, compared with 15% of investors age 35-64.")

214. *Almost 80% of Private Day Traders Lose Money*, CURIOUSGNU (Aug. 17, 2016), <https://www.curiousgnu.com/day-trading>.

215. Tony Dokoupil, Michael Kaplan, Martin Finn, Cassidy McDonald, Jennie Kamin & Rob Kaplan, *Alex Kearns Died Thinking He Owed Hundreds of Thousands for Stock Market Losses on Robinhood. His Parents Have Sued over His Suicide.*, CBS NEWS, <https://www.cbsnews.com/news/alex-kearns-robinhood-trader-suicide-wrongful-death-suit/> (Feb. 8, 2021, 2:03 PM).

216. *See, e.g.*, Sarah Halzack, *Social Media 'Influencers': A Marketing Experiment Grows into a Mini-Economy*, WASH. POST (Nov. 2, 2016), [https://www.washingtonpost.com/business/economy/social-media-influencers-a-marketing-experiment-thats-metastasized-into-a-mini-economy/2016/11/02/bf14e23a-9c5d-11e6-9980-50913d68each\\_story.html](https://www.washingtonpost.com/business/economy/social-media-influencers-a-marketing-experiment-thats-metastasized-into-a-mini-economy/2016/11/02/bf14e23a-9c5d-11e6-9980-50913d68each_story.html).

217. Kelly Callahan, *CGI Social Media Influencers: Are They Above the FTC's Influence?*, 16 J. BUS. & TECH. L. 361, 367 (2021) ("In 2019, 3.5 billion people used social media, which is approximately 45% of the world's population. People spent 33% of the time they spent online using social media. Almost 50% of consumers rely on social media influencers when making purchasing decisions, which makes social media influencers powerful marketing weapons.")

218. *See, e.g.*, Alicia McElhane, *Welcome to FinTok, Where Day Trading, Options Investing, and Misinformation Reign*, INST'L INV. (Sept. 25, 2020), <https://www.institutionalinvestor.com/article/bInjqf7rw75qyx/Welcome-to-FinTok-Where-Day-Trading-Options-Investing-and-Misinformation-Reign>; Tara Siegel Bernard, *Trade Stock Tips on TikTok, Newbies Are Deeply Invested in Learning*, N.Y. TIMES, <https://www.nytimes.com/2021/04/28/your-money/stocks-investing-tiktok.html> (June 21, 2021).

219. Nathaniel Popper & Kellen Browning, *The 'Roaring Kitty' Rally: How a Reddit User and His Friends Roiled the Markets*, N.Y. TIMES (Jan. 29, 2021), <https://www.nytimes.com/2021/01/29/technology/roaring-kitty-reddit-gamstop-markets.html>.

220. Ellen Milligan, *Kardashian's Instagram Crypto Plug Irks U.K. Finance Watchdog*, BLOOMBERG (Sept. 6, 2021, 8:29 AM), <https://www.bloomberg.com/news/articles/2021-09-06/kardashian-s-instagram-crypto-plugin-irks-u-k-finance-watchdog>.

children's and emerging adults<sup>221</sup> investment choices are particularly susceptible to the influence of outside parties. Simply put, younger individuals are more vulnerable, as it is easier to exploit consumers<sup>222</sup> who are easily, immorally, and unethically manipulated by hidden marketing, advertising, and specific agenda content.<sup>223</sup> As a result, child-targeted advertising has become a multibillion dollar endeavor in the United States, with \$4.2 billion spent on marketing to children in 2018 alone.<sup>224</sup> Even educational apps for preschoolers are flooded with manipulative content and structured in a way that shames children into spending money within the apps by making them believe that spending or buying is the correct solution or way to progress.<sup>225</sup> Children are also more influenced by herd mentality, including when it comes to their financials. Because they want to appear "cool" before their peers, teens cite "friends" as the strongest influence over their financial decisions.<sup>226</sup> In fact, 80% of Generation Z's purchases were influenced by social media.<sup>227</sup> Likewise, some

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221. Jeffrey Jensen Arnett, *Emerging Adulthood: A Theory of Development from the Late Teens Through the Twenties*, 55 AM. PSYCH. 469, 471 (2000) (identifying emerging adults as individuals who are eighteen to twenty-five years old); Craig M. Bennett & Abigail A. Baird, *Anatomical Changes in the Emerging Adult Brain: A Voxel-Based Morphometry Study*, 27 HUM. BRAIN MAPPING 766, 766 (2006) (describing research that suggests that the human brain is not aware of the legal and societal milestone that turning eighteen signifies in our society); Melissa S. Caulum, *Postadolescent Brain Development: A Disconnect Between Neuroscience, Emerging Adults, and the Corrections System*, 2007 WIS. L. REV. 729, 730–31 ("[Although the legal age of adulthood is eighteen,] research suggests that, structurally, the human brain is not aware of this societal milestone. Scientists are just beginning to conduct studies to determine why people change so drastically after they reach the age of eighteen, but it is clear that the seven-year period between eighteen and twenty-five is full of significant changes in both environment and responsibility.")

222. See, e.g., RAFFAELLO ROSSI & AGNES NAIRN, WHAT ARE THE ODDS? THE APPEAL OF GAMBLING ADVERTS TO CHILDREN AND YOUNG PERSONS ON TWITTER 6 (2021), <https://www.bristol.ac.uk/media-library/sites/management/documents/what-are-the-odds-rossi-nairn-2021.pdf> (conducting a study focused on gambling-content marketing on three different age groups in the United Kingdom that found that gambling-content marketing posts were nearly four times more appealing to users between ages seventeen and twenty-four, than to users over twenty-five).

223. See Rossi & Nairn, *supra* note 182 ("When presented with content marketing, it is nearly impossible for children to immediately recognise the posts' persuasive intent. And while young adults might be able to recognise that the posts are advertising, they find it much harder than older people to resist being persuaded. So neither group is likely to make the mental counter arguments needed to resist being taken in by content marketing."); *Survey: Most Americans Believe Advertising to Children Is Unethical and Advertisers Should Stop Marketing to Kids Under 8 Years Old*, CISION PR NEWSWIRE (Nov. 17, 2020, 8:38 AM), <https://www.prnewswire.com/news-releases/survey-most-americans-believe-advertising-to-children-is-unethical-and-advertisers-should-stop-marketing-to-kids-under-8-years-old-301174474.html> [hereinafter *Stop Marketing to Kids*].

224. See *Stop Marketing to Kids*, *supra* note 223.

225. Chavie Lieber, *Apps for Preschoolers Are Flooded with Manipulative Ads, According to a New Study*, VOX (Oct. 30, 2018, 6:00 PM), <https://www.vox.com/the-goods/2018/10/30/18044678/kids-apps-gaming-manipulative-ads-ftc>.

226. Piper Jaffray Completes 25th Semi-Annual "Taking Stock with Teens" Market Research Project, PIPER SANDLER (Apr. 10, 2013, 6:01 PM), <https://www.pipersandler.com/2col.aspx?id=287&releaseid=1805593> [<https://web.archive.org/web/20220305215339/https://www.pipersandler.com/2col.aspx?id=287&releaseid=1805593>].

227. Cara Salpini, *Study: 80% of Gen Z Purchases Influenced by Social Media*, RETAILDIVE (July 17, 2017), <https://www.retaildive.com/news/study-80-of-gen-z-purchases-influenced-by-social-media/447249/>.

children purchase “follows”<sup>228</sup> and “likes” for money<sup>229</sup> to appear more admired or cool. And digital platforms exploit these fears of missing out and desires for social acceptance, which indirectly affect children’s anxiety.<sup>230</sup> Digital platforms like Venmo or Instagram have enabled users to immediately see what others are spending their money and time on, or when they have been left out of an activity by their peers.<sup>231</sup> This has contributed to the rise of depression among children,<sup>232</sup> which might be linked to the rise in youth suicide, which has nearly tripled in the last decade for ten- to fourteen-year-olds.<sup>233</sup> This means that digital platforms, apps, or games that make products or services available for children must be legally required to meet certain increased consumer protection standards and careful scrutiny, especially if they include financial services or products. Indeed, as mentioned above, the law has always recognized that differences between children and adults associated with children’s ongoing development justify distinct treatment in a wide variety of regulatory contexts.<sup>234</sup> Again, this understanding of those developmental differences in this context is critical.

#### D. DEBT, CREDIT, AND FINANCIAL COMMITMENTS: LEARNING FINANCIAL PRINCIPLES

The way fintech and DeFi apps and games are designed, the goals they include for their users, and the way their users digitally engage with them can influence the way users understand financial notions and concepts such as credit, financial commitments, debt, reward, labor, and even default. Therefore, when dealing with platforms that arguably provide financial educational experience to young users—as some fintech companies and traditional financial institutions that enable children to open accounts argue they do—it is crucial to understand that the way they design or offer their products and services will affect future generations’ approaches to our financial system, its norms, and fiscal planning in general. For instance, when children play a game in which they are unlikely

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228. *Buy Instagram Likes: How To Buy Instagram Likes & Increase Your Exposure*, ASSOCIATED PRESS (Dec. 20, 2020), <https://apnews.com/article/online-media-social-media-media-6d2f1438f3b6914498e11e0ad6b06d68>.

229. Sapna Maheshwari, *How Bots Are Inflating Instagram Egos*, N.Y. TIMES (June 6, 2017), <https://www.nytimes.com/2017/06/06/business/media/instagram-bots.html>.

230. Shaohai Jiang & Annabel Ngien, *The Effects of Instagram Use, Social Comparison, and Self-Esteem on Social Anxiety: A Survey Study in Singapore*, SOC. MEDIA & SOC’Y, May 6, 2020, at 1, <https://journals.sagepub.com/doi/pdf/10.1177/2056305120912488>.

231. See, e.g., Jillian D’Onfro, *Venmo’s ‘Secret Sauce’ Keeps Users Checking the App Even When They’re Not Making Payments*, BUS. INSIDER (Dec. 9, 2015, 11:03 AM), <https://www.businessinsider.com/venmo-social-feed-is-its-secret-sauce-2015-12> (“[People] love it because it lets them scope the transactions of everyone in their social circle. The app lets people send money back-and-forth, and unless they set a transaction as ‘private,’ it will appear on the app’s social feed, sans dollar-amount, for anyone connected to them to see.”).

232. Elizabeth Bernstein, *How To Spot Teenage Depression*, WALL ST. J., [https://www.wsj.com/articles/is-your-teen-depressed-or-just-moody-1520266550?mod=article\\_inline](https://www.wsj.com/articles/is-your-teen-depressed-or-just-moody-1520266550?mod=article_inline) (Mar. 5, 2018, 4:43 PM).

233. Brianna Abbott, *Youth Suicide Rate Increased 56% in Decade, CDC Says*, WALL ST. J., <https://www.wsj.com/articles/youth-suicide-rate-rises-56-in-decade-cdc-says-11571284861> (Oct. 17, 2019, 10:10 AM).

234. Buss, *supra* note 11, at 267.

to be able to advance beyond a certain level no matter how hard they try unless someone buys that ability for them, there may be a life lesson there. Unfortunately, this is often the case in digital games, which have default settings that make it impossible to advance without making some microtransaction:<sup>235</sup> business transactions that involve “a very small amount of money, typically under about \$5.00” and enable players to purchase customized content, accessories, or other game advantages.<sup>236</sup>

Another example is Kwedit, which sounds like how a young child would pronounce the word “credit,” a platform that became famous after the 2008 financial crisis for being one of the first to use the “buy now, pay later” (BNPL) business model.<sup>237</sup> Under the Kwedit Promise System, users promised to pay later for digital goods they would immediately receive, and those who could not pay were nudged by the “Pass the Duck” feature to forward the commitment to someone else, such as a parent or a more financially-sound relative.<sup>238</sup> BNPL—a short-term financing option in which users agree to pay for their purchased items or services in installments after a certain down payment—has since continued to gain popularity,<sup>239</sup> but it has also raised concerns among regulators.<sup>240</sup> For example, in February 2021, the British government announced that BNPL would be regulated by the Financial Conduct Authority, determining that there is “a significant risk” of harm to consumers.<sup>241</sup> Likewise, in late 2021, the CFPB asked split-payment services for more information on their installment plans, expressing concerns over consumers.<sup>242</sup> And even the U.S. credit rating bureau, Equifax, announced it would start recording BNPL plans that allow

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235. European consumer groups recently focused on in-game microtransactions and their manipulative, addictive nature, which especially hurts children. Tom Gerken, *Report Blasts “Manipulative” Video Game Loot Boxes*, BBC NEWS (May 31, 2022), <https://www.bbc.com/news/technology-61594815>.

236. Rebecca E. McDonough, *Loot Boxes: “It’s a Trap!”*, 46 N. KY. L. REV. 62, 62 (2019).

237. This business model is based on a no-interest, post-purchase monthly installment concept. *Why ‘Buy Now, Pay Later’ Is Popping Up Everywhere*, WALL ST. J.: THE J. (Sept. 21, 2021, 4:25 PM), [https://www.wsj.com/podcasts/the-journal/why-buy-now-pay-later-is-popping-up-everywhere/baa2dae5-5bde-4f63-99bc-2760e70de1ff?mod=article\\_inline](https://www.wsj.com/podcasts/the-journal/why-buy-now-pay-later-is-popping-up-everywhere/baa2dae5-5bde-4f63-99bc-2760e70de1ff?mod=article_inline) (describing the growing number of retailers that are offering customers the ability to shop for a product and pay for it later in installments).

238. Daniel Wolfe, *Name Isn’t All That’s Changed at the Former Kwedit*, AM. BANKER (Sept. 24, 2010, 5:59 PM), <https://www.americanbanker.com/news/name-isnt-all-thats-changed-at-the-former-kwedit>.

239. Robin Saks Frankel, *What Is Buy Now, Pay Later?*, FORBES, <https://www.forbes.com/advisor/credit-cards/buy-now-pay-later/> (June 15, 2022, 9:11 AM).

240. Alix Fraser, *Everything Retailers Need To Know About Buy Now, Pay Later*, LIGHTSPEED (Oct. 6, 2021), <https://www.lightspeedhq.com/blog/retailers-buy-now-pay-later/>; *Buy Now Pay Later Firms in Saudi Arabia Must Get a Permit: SAMA*, ARAB NEWS, <https://www.arabnews.com/node/1941831/business-economy> (Oct. 6, 2021).

241. Rupert Jones, *Consultation Launched on Regulating UK’s Buy Now, Pay Later Credit Industry*, THE GUARDIAN (Oct. 21, 2021, 11:45 AM), <https://www.theguardian.com/money/2021/oct/21/consultation-launched-on-regulating-uks-buy-now-pay-later-credit-industry>.

242. Telis Demos, *Buy Now, Pay Later Is Just One Piece of the Fintech Puzzle*, WALL ST. J. (Dec. 20, 2021, 12:44 PM), [https://www.wsj.com/articles/buy-now-pay-later-is-just-one-piece-of-the-fintech-puzzle-11640022287?reflink=desktopwebshare\\_linkedin](https://www.wsj.com/articles/buy-now-pay-later-is-just-one-piece-of-the-fintech-puzzle-11640022287?reflink=desktopwebshare_linkedin).

shoppers to make multiple payments, as such plans make it more difficult to assess consumers' real financial abilities and risk.<sup>243</sup>

The BNPL-related concerns, however, were not the only problem with Kwedit's business model. The promises that children made to Kwedit very quickly became unenforceable, and there were no real consequences for users who did not pay, just incentives. Therefore, apps like Kwedit in essence helped instill in children the understanding that it is okay to buy things you cannot afford, and that even if you cannot repay your debt, there is no harm done. Indeed, Kwedit's model made children learn, firsthand, the horrible financial lesson that it is okay to gain more and more credit but not honor the financial commitments made.<sup>244</sup>

In recent decades, a dominant theory in the world of education has been teaching children the importance of consequences in a clear, logical, kind, and safe way.<sup>245</sup> Following this approach, describing predictable expectations and consequences in a consistent way can help children learn and better predict and prepare for possible future outcomes. Moreover, establishing clear, logical rules helps children learn the benefits of positive behavior, because consequences are the positive or negative results of behavior.<sup>246</sup> Teaching children that their behaviors have consequences is not always easy, and certainly if the goal is to do so in a safe and educational environment. Yet in the financial context, teaching children the importance of being financially responsible, trustworthy, and rational is something that may be achieved by showcasing various potential consequences. However, business models like Kwedit's, or other overly gamified,<sup>247</sup> psychologically manipulative, risk-inducing, or debt-soliciting

243. AnnaMaria Andriotis, *Equifax To Add More 'Buy Now, Pay Later' Plans to Credit Reports*, WALL ST. J. (Dec. 19, 2021, 7:00 AM), <https://www.wsj.com/articles/equifax-to-add-more-buy-now-pay-later-plans-to-credit-reports-11639915203?reflink=desktopwebshare> (“[Such] plans often don’t show up on credit reports, creating a blind spot for lenders that use the information on the reports to gauge an applicant’s ability to repay.”).

244. Wolfe, *supra* note 238.

245. In modern psychology, which follows the Adlerian school of thought, it is believed that natural consequences constitute the direct result of the child’s actions. *See, e.g.*, THOR JOHANSEN, *RELIGION AND SPIRITUALITY IN PSYCHOTHERAPY: AN INDIVIDUAL PSYCHOLOGY PERSPECTIVE* 194–95 (2010). Therefore, to educate or teach children right behavior from wrong, educators and caregivers should explain to children what the natural consequences of their actions are to teach them to do better and to be accountable for their decisions and actions. *See id.*

246. *Id.*

247. *See, e.g.*, Ann Carrns, *Apps Try Putting Financial Literacy at Kids’ Fingertips*, N.Y. TIMES (Aug. 27, 2021), <https://www.nytimes.com/2021/08/27/business/kids-financial-literacy-apps.html> (describing how while fintech apps for children can be valuable resources to help parents teach children about money, they “may encourage risky behaviors,” according to some experts); Lu-Hai Liang, *Does E-Money Make You Spend More?*, BBC (Dec. 5, 2019), <https://www.bbc.com/future/article/20191204-does-e-money-make-you-spend-more> (“Spending on a credit card clearly has effects on how people spend, which numerous studies have borne out. . . . But what about using e-wallets? . . . If you lose feedback, then yes you’ll be spending more. . . . [Also,] it could be hypothesized that the flinch moment could be missing when paying with a smartphone.”); Tracy Markle & Brett Kennedy, *In-Game Purchases: How Video Games Turn Players into Payers*, DIGIT. MEDIA TREATMENT, <https://digitalmediatreatment.com/in-game-purchases/> (Mar. 29, 2021) (“The news is full of stories about kids spending a small fortune on in-game purchases with their parents’ credit cards. . . . And while children, teenagers and problem gamblers are most vulnerable, anyone who plays video games is susceptible.”).

models in which children understand the potential consequences only when it is too late<sup>248</sup> are not the way to go.

#### E. THE PARENTS' PERSPECTIVE

Since it is widely believed that parental behavior impacts children's development, mainstream parents face pressure, informed by social trends and legal norms, to create the optimal conditions for their children's development.<sup>249</sup> This belief, along with technological innovation, has contributed to the rise of the intensive parenting model in which an increasing number of parents expect and want full access to information about their children, viewing it as necessary to involve themselves in all aspects of their children's lives.<sup>250</sup> This includes accessing information about what their children are up to online, academically, and socially,<sup>251</sup> as well as staying on top of their children's digital financial activity, something parents might not be aware of if they are already struggling to keep up with supervising their children's online activities. Enabling children to use digital financial apps will require much more effort, because doing so requires parents to be on the lookout for a wide variety of things. For example, children can be overly generous with gifting their friends, borrow excessive amounts of money from friends, be taken advantage of, and attempt to appear richer than they are to "keep up with the Joneses."<sup>252</sup> These issues, especially along with cyberbullying, are real problems with serious negative effects on victims, parents, communities, and schools, particularly as educators across the board have failed to find suitable solutions.<sup>253</sup> Accordingly, as of now, regulators' efforts do not in fact include negative consequences, such as imposing criminal anti-cyberbullying sanctions<sup>254</sup> aimed at both punishing and deterring cyberbullying. Instead, increased internet safety educational efforts primarily "address cyberbullying positively, by empowering educators with the necessary tools to inform students and parents about how to use ever-changing technology wisely and safely."<sup>255</sup> But staying on top of their children's online financial decision-making is difficult even for the most tech-savvy parents due

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248. Maggie Fitzgerald, *Robinhood Sued by Family of 20-Year-Old Trader Who Killed Himself After Believing He Racked Up Huge Losses*, CNBC, <https://www.cnbc.com/2021/02/08/robinhood-sued-by-family-of-alex-kearns-20-year-old-trader-who-killed-himself-.html> (Feb. 8, 2021, 9:26 PM).

249. Kim H. Pearson, *Chemical Kids*, 24 TEX. J. WOMEN, GENDER & L. 67, 70 (2014).

250. See Gaia Bernstein & Zvi Triger, *Over-Parenting*, 44 U.C. DAVIS L. REV. 1221, 1225 (2011) (defining intensive parenting as "actively cultivat[ing] [the] child, acquir[ing] sophisticated knowledge of best child rearing practices, and utiliz[ing] this knowledge to closely monitor the child's development and daily activities").

251. Deborah Ahrens, *Schools, Cyberbullies, and the Surveillance State*, 49 AM. CRIM. L. REV. 1669, 1715–16 (2012).

252. See Tim Devaney, *Nearly 40% of Millennials Overspend To Keep Up with Friends*, CREDIT KARMA (Apr. 5, 2018), <https://www.creditkarma.com/insights/i/fomo-spending-affects-one-in-four-millennials>.

253. Jamie L. Williams, Note, *Teens, Sexts, & Cyberspace: The Constitutional Implications of Current Sexting & Cyberbullying Laws*, 20 WM. & MARY BILL RTS. J. 1017, 1037 (2012).

254. Jessica P. Meredith, Note, *Combating Cyberbullying: Emphasizing Education over Criminalization*, 63 FED. COMM'NS L.J. 311, 313 (2010).

255. *Id.*



to rapid technological innovation. For instance, although tech savvy parents may know how to use voice-activated assistants, few understand their true power, which children are quick to unlock.<sup>256</sup> Even so, 36% of parents of children eleven or younger let their children use a voice-activated assistant, like Apple's Siri or Amazon's Alexa.<sup>257</sup> But how many know what Alexa "skills" their children have inadvertently enabled? When children interact with sophisticated AI technology, they test boundaries by purposefully saying the "wrong" thing. In many instances, their seemingly funny comments can enable age-inappropriate features or "skills" that third parties have enabled. Not only can children receive age-inappropriate results, but they can also inadvertently waive privacy rights, allowing third parties to enter their homes and use their data without parental knowledge, as a study of Amazon Alexa skills recently revealed.<sup>258</sup>

Before thinking that they have found an easy way to provide their children with early digital-investing and securities-trading experience, parents must think carefully about whether they have the time and energy to ensure that the new technology does not have the opposite effect of increasing gaming addiction and irresponsible monetary actions. Moreover, unlike many things that are accessible to children, these new technologies do not yet have regulatory guardrails to ensure safety. That burden rests solely upon parents.<sup>259</sup>

#### IV. REGULATION TIME: WHO'S THE BOSS?

In recent years, regulators all over the world have attempted to address some of the concerns discussed in this Article. Among the jurisdictions that have focused on these issues is China, which placed strict limits on how long minors can play online video games.<sup>260</sup> Somewhat relatedly, in September 2021, the People's Bank of China, China's central bank, banned all cryptocurrency

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256. See Michael S. Rosenwald, *How Millions of Kids Are Being Shaped by Know-It-All Voice Assistants*, WASH. POST (Mar. 2, 2017), [https://www.washingtonpost.com/local/how-millions-of-kids-are-being-shaped-by-know-it-all-voice-assistants/2017/03/01/c0a644c4-cf1c-11e6-b4ff-ac2cf509efe5\\_story.html](https://www.washingtonpost.com/local/how-millions-of-kids-are-being-shaped-by-know-it-all-voice-assistants/2017/03/01/c0a644c4-cf1c-11e6-b4ff-ac2cf509efe5_story.html).

257. Brooke Auxier, Monica Anderson, Andrew Perrin & Erica Turner, *Parenting Children in the Age of Screens*, PEW RSCH. CTR. (July 28, 2020), <https://www.pewresearch.org/internet/2020/07/28/parenting-children-in-the-age-of-screens/>.

258. Davey Winder, *Security Researchers Probed 90,194 Amazon Alexa Skills—the Results Were Shocking*, FORBES (Mar. 7, 2021, 7:14 AM), <https://www.forbes.com/sites/daveywinder/2021/03/07/security-researchers-probed-90194-amazon-alexa-skills-the-results-were-shocking/?sh=71c102162800>.

259. Naomi Cahn, *CRISPR Parents and Informed Consent*, 23 SMU SCI. & TECH. L. REV. 3, 13 (2020) (explaining how because of children's lack of capacity, "parents engage in decisionmaking for their children, [and] the law provides great deference, intervening only at the point of abuse or neglect").

260. Chris Buckley, *China Tightens Limits for Young Online Gamers and Bans School Night Play*, N.Y. TIMES (Aug. 30, 2021), <https://www.nytimes.com/2021/08/30/business/media/china-online-games.html#:~:text=China's%20strict%20limits%20on%20how,under%20government%20rules%20issued%20Monday> ("Chinese children and teenagers are barred from online gaming on school days, and limited to one hour a day on weekend and holiday evenings, under government rules . . .").

transactions.<sup>261</sup> The Bank cited cryptocurrencies' impact on the environment, facilitation of financial crime, and highly volatile and speculative characteristics as posing a growing risk to China's financial system.<sup>262</sup> Similar to China, the South Korean government has expressed concerns about risky games that are de facto gambling, referencing article 32 of the country's Gaming Industry Promotion Act, which notably forbids the conversion of game currency into cash.<sup>263</sup> The Korean Game Rating and Administration Committee has already prevented the distribution of P2E games *Infinite Breakthrough* and *Three Kingdoms Reverse* from app stores by withholding their rating classification.<sup>264</sup> South Korea also has a form of soft web censorship on what the government considers illegal or subversive materials.<sup>265</sup> Due in part to article 28 of the Gaming Industry Promotion Act, Korean regulators issued an official request to Apple and Google asking them to prevent any new registration of P2E games on their app stores.<sup>266</sup> The Gaming Industry Promotion Act outlaws gambling, free gifts, and speculative conduct, and presents difficulties for the developing GameFi, gaming, and loot-box industry players.<sup>267</sup> Finally, P2E may also be barred in Japan, as the majority of in-game activities could be regarded as gambling, and especially since the mechanics of some games can be interpreted as prohibited under the Improper Premiums and Misleading Representations Act of Japan's Consumer Affairs Agency.<sup>268</sup>

Taking a different approach from Asian regulators, lawmakers in the United Kingdom have enacted the Age Appropriate Design Code, which establishes guidelines for digital services using children's data.<sup>269</sup> The law resulted in major innovations for child safety, including, for example, forcing YouTube to turn off its autoplay function, and both TikTok and Instagram to prevent unknown adults from direct messaging minors.<sup>270</sup>

In the United States, lawmakers have focused thus far mainly on advancing legal initiatives that relate to the harmful impact that social media has on

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261. Ryan Browne, *China's Central Bank Says All Cryptocurrency-Related Activities Are Illegal, Vows Harsh Crackdown*, CNBC, <https://www.cnbc.com/2021/09/24/china-central-bank-vows-harsh-crackdown-on-cryptocurrency-industry.html> (Sept. 24, 2021, 10:15 AM).

262. Francis Shin, *What's Behind China's Cryptocurrency Ban?*, WORLD ECON. F. (Jan. 31, 2022), <https://www.weforum.org/agenda/2022/01/what-s-behind-china-s-cryptocurrency-ban/> (explaining that another potential motivation behind the ban could be an attempt to combat capital flight from China).

263. Reynolds, *supra* note 104.

264. *Id.*

265. *Id.*

266. *Id.*

267. *Id.*

268. *Id.*

269. See *Introduction to the Age Appropriate Design Code*, INFO. COMM'R'S OFF., <https://ico.org.uk/for-organisations/guide-to-data-protection/ico-codes-of-practice/age-appropriate-design-code/> (last visited Jan. 28, 2023).

270. Madison Hirneisen, *California Bill Would Require Greater Online Protections for Minors*, CTR. SQUARE (Apr. 20, 2022), [https://www.thecentersquare.com/california/california-bill-would-require-greater-online-protections-for-minors/article\\_79fec192-c0b1-11ec-91da-af572ae2c059.html](https://www.thecentersquare.com/california/california-bill-would-require-greater-online-protections-for-minors/article_79fec192-c0b1-11ec-91da-af572ae2c059.html).

children, but have not addressed the financial aspects of games and apps offered to children.<sup>271</sup> These initiatives have included four main courses of action. First, in his 2022 State of the Union Address, President Biden threatened Big Tech companies over their “national experiment” on children, and vowed to hold social media platforms accountable for their harms.<sup>272</sup> Second, federal lawmakers have probed senior tech executives about child safety, “airing frustrations and attempting to extract various commitments . . . to make the platform[s] . . . safer space[s] for [their] youngest users.”<sup>273</sup> Third, state attorneys general have been investigating social media and Big Tech companies over how their designs operate and promote certain features that can potentially harm children.<sup>274</sup>

Lastly, some states have started advancing bills that may minimize some of the harmful impacts that social media digital platforms have on children. For example, California lawmakers introduced the bipartisan legislation Assembly Bill 2273, the California Age-Appropriate Design Code Act, which contains provisions protecting children’s data and requiring social media companies to design their products with the best interests of child users in mind.<sup>275</sup> The law was intended to be enforced by the California Privacy Protection Agency and to establish the California Children’s Data Protection Taskforce.<sup>276</sup> Likewise,

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271. See, e.g., Sarah Beth Guevara, *Senators Introduce Bill To Limit Harmful Effects of Social Media on Young People*, ABC NEWS (Feb. 17, 2022, 5:54 AM), <https://abcnews.go.com/Politics/senators-introduce-bill-limit-harmful-effects-social-media/story?id=82932781>. But aside from social media’s impact on children’s emotional state, federal lawmakers have largely ignored issues that relate to children’s use of digital platforms, games, and apps. For example, in contrast to the regulated movie industry, digital apps’ content age rating is completely unregulated. Existing ratings rely purely on the subjective discretion of app-developers, without any evidence-based guidelines or external, objective review. See, e.g., Dave Davies, *Users Beware: Apps Are Using a Loophole in Privacy Law To Track Kids’ Phones*, NPR (June 16, 2022, 12:38 PM), <https://www.npr.org/transcripts/1105212701>.

272. Shirin Ghaffary, *Biden Threatens Big Tech over Its “National Experiment” on Children*, VOX (Mar. 1, 2022, 10:43 PM), <https://www.vox.com/recode/2022/3/1/22957507/biden-state-of-the-union-social-media-mental-health-children-accountability-frances-haugen> (“To make his point, [President Biden] referred to a special guest in the audience, former Facebook employee Frances Haugen, who shared internal company documents with the press and Congress last fall that showed Facebook had publicly downplayed its own research that found a connection between its products and mental health issues in some teenagers.”).

273. See, e.g., Vanessa Romo, *4 Takeaways from Senators’ Grilling of Instagram’s CEO About Kids and Safety*, NPR (Dec. 8, 2021, 10:13 PM), <https://www.npr.org/2021/12/08/1062576576/instagrams-ceo-adam-mosseri-hears-senators-brush-aside-his-promises-to-self-poli>.

274. See, e.g., John D. McKinnon, *TikTok Faces Scrutiny in State Attorneys General Probe of Online Harms to Children*, WALL ST. J., <https://www.wsj.com/articles/tiktok-faces-scrutiny-in-state-attorneys-general-probe-of-online-harms-to-children-11646251698> (Mar. 2, 2022, 5:17 PM) (describing an investigation into TikTok seeking information about whether and how the digital platform contributes to online harms to children, and indicating that this move was an extension of an investigation unveiled by the same group of eight state attorneys general into Meta’s Instagram).

275. Andrew Sheeler, *California Gov. Gavin Newsom Signs Law Intended To Protect Children on Social Media*, THE SACRAMENTO BEE, <https://www.sacbee.com/news/politics-government/capitol-alert/article265870746.html#storylink=cpy> (Sept. 16, 2022, 12:06 PM).

276. *California Lawmakers Propose Children’s Privacy Bill*, INT’L ASS’N OF PRIV. PROS. (Feb. 17, 2022), <https://iapp.org/news/a/california-lawmakers-propose-childrens-privacy-bill/>. Another source explains:

California lawmakers introduced the bipartisan, first-in-the-nation legislation Assembly Bill 2408, the Social Media Platform Duty to Children Act, which sought to discourage social media companies and tech giants, via financial accountability, from manipulating their services and products to be addictive and harmful to children.<sup>277</sup> In particular, the new bill was meant to open up social media platforms like Meta, TikTok, and Snap to lawsuits from parents who believe their children have become addicted to social media apps.<sup>278</sup> Moreover, the bill sought to hold social media companies accountable even if they did not intentionally make their platforms addictive to children, and companies could still be on the hook for civil penalties if they “knew or should have known” that their services and products would be addictive and harmful to children.<sup>279</sup> However, Assembly Bill 2408 was “targeted for defeat by the social media industry, including Meta,” and eventually “[l]obbyists were successful and the bill died a quiet death on the Senate Appropriations Committee suspense file.”<sup>280</sup> Additionally, Assembly Bill 2408 was not meant to intrude upon § 230 of the Federal Communications Decency Act,<sup>281</sup> which protects digital platforms from

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State Assembly members Buffy Wicks, a Democrat, and Jordan Cunningham, a Republican . . . proposed the California Age-Appropriate Design Code Act, a bill modeled on the U.K.’s Age Appropriate Design Code, also known as the Children’s Code. If enacted, owners of web products would be required to limit the collection of California children’s data, better protect them from other users, curtail addictive interfaces, and simplify convoluted privacy settings and agreements. The bill would also ban so-called nudging techniques designed to subtly get children to allow data sharing, as well as collecting data including location information for purposes outside of the product or service the child is using.

Katie Deighton, *Silicon Valley Faces Pressure To Redesign Children’s Online Experience*, WALL ST. J. (Feb. 18, 2022, 6:43 PM), <https://www.wsj.com/articles/silicon-valley-faces-pressure-to-redesign-childrens-online-experience-11645227819>.

277. Leo Stallworth, *CA Parents Could Sue Social Media Giants If They Feel Their Kids Have Become Addicted Under New Bill*, ABC7 NEWS (Mar. 25, 2022), [https://www.sandiego.edu/cai/documents/AB2408%20amends.pdf](https://abc7news.com/social-media-bill-california-assembly-no-2408-platform-duty-to-children-act/11679321/#:~:text=SACRAMENTO%20-%20California%20lawmakers%20have%20proposed%20a%20bill,if%20they%20prove%20to%20be%20harmful%20to%20children; see also A.B. 2408, 2021-2022 Reg. Sess. (Cal. 2022); Amendments to Assembly Bill No. 2408, CHILD.’S ADVOC. INST. (Mar. 10, 2022, 4:36 PM), <a href=).

278. See, e.g., Christian Hetrick, *California Bill Would Let Parents Sue TikTok, Snap for Kids’ Social Media Addictions*, DOT.LA (Mar. 17, 2022), <https://dot.la/social-media-addiction-california-bill-2656981477.html>.

279. *Id.* This source explains:

The bipartisan California bill comes from Assembly members Jordan Cunningham, a Republican from San Luis Obispo, and Buffy Wicks, a Democrat who represents Oakland. In introducing the bill, the lawmakers singled out Meta, the social media behemoth formerly known as Facebook. They noted how leaked data from the company showed that teen girls, in particular, reported negative experiences after using Instagram—including some who said it made their suicidal thoughts or eating disorders worse. ‘It’s time we treat the dangers of youth social media addiction with the level of seriousness it warrants,’ Cunningham said in a statement.

*Id.*

280. See Sheeler, *supra* note 275.

281. Section 230 of the Communications Act of 1934, enacted as part of the Communications Decency Act of 1996, states that “[n]o provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider.” 47 U.S.C. § 230(c)(1).

liability for the content that others post on their platforms; according to those initiating the legislation, the California bill had nothing to do with content.<sup>282</sup>

Not everyone agreed with § 230's approach, and in March 2022, Supreme Court Justice Clarence Thomas opined that Congress should revisit the scope of immunity afforded to online platforms under § 230.<sup>283</sup> Similarly, in 2020, lawmakers proposed legislation in Congress, the EARN IT Act, aiming to amend § 230.<sup>284</sup> On March 5, 2020, the National Center for Missing and Exploited Children, among other nonprofits, endorsed the legislation, writing that "it provides ESPs [electronic service providers] with a roadmap to adopt specific, consistent best practices developed by industry and subject matter experts to prevent, reduce, and respond to the online sexual exploitation of children."<sup>285</sup> Lastly, several bipartisan bills have been proposed in Congress seeking to initiate the kinds of reforms President Biden mentioned in his Address, including an update to the Children and Teens' Online Privacy Protection Act and the Kids Online Safety Act.<sup>286</sup>

But making sure that children are protected from online social media manipulation is only one piece of the puzzle when searching for policies more conducive to good consumer and investor protection outcomes that would guide lawmakers in regulating the digital financial services and products that are offered to children. Furthermore, the different challenges associated with these innovative new services and products, as discussed above, may mean that we need to adopt a new approach for regulating tech, DeFi, and digital platform companies—namely, the creation of a new digital platform agency, similar to the CFPB, that would better protect consumers, as scholars Tom Wheeler, Phil Verveer, and Gene Kimmelman have recently suggested.<sup>287</sup> Indeed, addressing such challenges requires multiple government agencies to coordinate regulating cutting-edge issues that fall under the jurisdiction of various regulatory bodies,

282. Lauren Berg, *Calif. Bill Could Hook Tech Cos. for Social Media Addiction*, LAW360 (Mar. 16, 2022), <https://www.law360.com/personal-injury-medical-malpractice/articles/1474359/calif-bill-could-hook-tech-cos-for-social-media-addiction?copied=1>.

283. P.J. D'Annunzio, *Thomas Targets Immunity Issue as Court Skips Facebook Row*, LAW360 (Mar. 7, 2022), <https://www.law360.com/personal-injury-medical-malpractice/articles/1474359/calif-bill-could-hook-tech-cos-for-social-media-addiction?copied=1>.

284. EARN IT Act, S. 3398, 116th Cong. (2020).

285. John F. Clark, *EARN IT Act 2020: NCMEC Supports New Legislation To Protect Children*, NAT'L CTR. FOR MISSING & EXPLOITED CHILD. (Mar. 5, 2020), <https://www.missingkids.org/blog/2020/earn-it-act-2020>; Chris Mills Rodrigo, *Senate Panel Advances Controversial Bill Aimed at Protecting Children Online*, THE HILL (Feb. 10, 2022, 11:38 AM), <https://thehill.com/policy/technology/593693-senate-panel-advances-controversial-bill-aimed-at-protecting-children/?rl=1>.

286. See Ghaffary, *supra* note 272; Andrew Ross Sorkin, Sarah Kessler, Stephen Gandel, Michael J. de la Merced, Lauren Hirsch & Ephrat Livni, *Child Safety Is the New Tech Battleground*, N.Y. TIMES (Feb. 17, 2022), <https://www.nytimes.com/2022/02/17/business/dealbook/children-online-safety-bill.html>.

287. See generally TOM WHEELER, PHIL VERVEER & GENE KIMMELMAN, *NEW DIGITAL REALITIES: NEW OVERSIGHT SOLUTIONS IN THE U.S.* (2020), [https://shorensteincenter.org/wp-content/uploads/2020/08/New-Digital-Realities\\_August-2020.pdf](https://shorensteincenter.org/wp-content/uploads/2020/08/New-Digital-Realities_August-2020.pdf) (addressing the challenge of government oversight for digital platform companies and suggesting the creation of a brand new federal agency designed to deal with digital issues rather than industrial ones).

which live by old statutes that do not reflect digital realities and operate under old procedures that may no longer be relevant.<sup>288</sup>

The kinds of issues a new regulator should address include, but are not limited to, the following five. The first is consumer protection issues that relate to deceptive and unfair advertising of fintech and DeFi products and services. Currently, in the United States, the FTC serves as the watchdog for protecting consumers and promoting fair market competition and issues guidelines regarding compliance with laws prohibiting deceptive and unfair practices, which cover advertising.<sup>289</sup> The FTC details which practices qualify as deceptive or unfair and sets standards for ensuring compliance.<sup>290</sup> However, the FTC has not updated its advertising guidelines to address new digital platforms used for advertising, like social media, since 2013, when it clarified that the same consumer protection laws governing commercial activities also apply online and added new regulations applicable to social media advertising.<sup>291</sup>

Then, in 2020, the FTC briefly addressed advertising in the massively growing digital gaming industry, issuing a report titled “Staff Perspective on Its Workshop, Inside the Game: Unlocking the Consumer Issues Surrounding Loot

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288. *Id.* at 6.

289. See *What We Do*, FED. TRADE COMM’N, <https://www.ftc.gov/about-ftc/what-we-do> [<https://web.archive.org/web/20211129203926/https://www.ftc.gov/about-ftc/what-we-do>] (“The FTC is a bipartisan federal agency with a unique dual mission to protect consumers and promote competition. For one hundred years, our collegial and consensus-driven agency has championed the interests of American consumers. As we begin our second century, the FTC is dedicated to advancing consumer interests while encouraging innovation and competition in our dynamic economy.”); see also Leah W. Feinman, Note, *Celebrity Endorsements in Non-Traditional Advertising: How the FTC Regulations Fail To Keep Up with the Kardashians*, 22 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 97, 107 (2011) (describing how the history of the FTC’s regulation of product endorsements originated with the tobacco industry).

290. See, e.g., Guides Concerning Use of Endorsements and Testimonials in Advertising, 16 C.F.R. § 255.0(a) (2022) (“The Guides in this part represent administrative interpretations of laws enforced by the Federal Trade Commission for the guidance of the public in conducting its affairs in conformity with legal requirements. Specifically, the Guides address the application of Section 5 of the FTC Act (15 U.S.C. 45) to the use of endorsements and testimonials in advertising. The Guides provide the basis for voluntary compliance with the law by advertisers and endorsers. Practices inconsistent with these Guides may result in corrective action by the Commission under Section 5 if, after investigation, the Commission has reason to believe that the practices fall within the scope of conduct declared unlawful by the statute. The Guides set forth the general principles that the Commission will use in evaluating endorsements and testimonials, together with examples illustrating the application of those principles. The Guides do not purport to cover every possible use of endorsements in advertising. Whether a particular endorsement or testimonial is deceptive will depend on the specific factual circumstances of the advertisement at issue.”).

291. See FTC.COM DISCLOSURES: HOW TO MAKE EFFECTIVE DISCLOSURES IN DIGITAL ADVERTISING 2 n.5 (2013), <https://www.ftc.gov/system/files/documents/plain-language/bus41-dot-com-disclosures-information-about-online-advertising.pdf> (citing 16 C.F.R. § 1.5 (2013)) (“Guides are ‘administrative interpretations of laws administered by the Commission.’ Although guides do not have the force and effect of law, if a person or company fails to comply with a guide, the Commission might bring an enforcement action alleging an unfair or deceptive practice in violation of the FTC Act.”).

Boxes,”<sup>292</sup> which discussed a workshop the Agency held on this topic.<sup>293</sup> The report examined the impact of loot boxes—randomized virtual items that players can buy or earn through gameplay<sup>294</sup>—on video gamers, particularly children. It also explored the financial impact paid loot boxes have on revenue streams and consumers,<sup>295</sup> including the pay-to-progress and pay-to-win scenarios, where child gamers find themselves in “grinding gameplay loops unless they buy loot boxes.”<sup>296</sup> Especially because many of these children do not fully understand the cost of loot-box transactions, they are susceptible to marketing tactics that lure them to buy more loot boxes or engage in problematic digital media use.<sup>297</sup> Despite discussing these issues, the FTC stopped short of regulating them, citing “commenters and panelists[.]” divergent views on whether government regulation is warranted,” and called for “industry self-regulatory initiatives” and “ongoing research and consumer education.”<sup>298</sup> The FTC has yet to address issues relating to DeFi, GameFi, and innovative business models such as P2E. Not all governments, however, continue to ignore the issue. For example, in the summer of 2022, Netherlands started moving toward passing a bill banning in-game loot boxes because of the links between the loot boxes’ microtransactions and gambling.<sup>299</sup>

Second, a new potential regulator should address digital consumer financial issues, including financial data. The CFPB uses enforcement, supervision, regulation, and education tools to protect the interests of the American consumer. Various state attorneys general and consumer protection agencies support the Bureau’s efforts to protect consumers’ financial interests, serving as force-multiplier partners throughout the country.<sup>300</sup> Moreover, in October 2021, the Bureau issued section 1022(c)(4) orders requesting information from major technology companies relating to payments services offered to consumers, signaling the Bureau’s intent to position itself as the main regulator of major fintech companies, and perhaps also to pursue a fair competition agenda, which

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292. Lesley Fair, *Loot Boxes: What’s in Play?*, FED. TRADE COMM’N (Aug. 14, 2020), <https://www.ftc.gov/business-guidance/blog/2020/08/loot-boxes-whats-play>.

293. *Inside the Game: Unlocking the Consumer Issues Surrounding Loot Boxes*, FED. TRADE COMM’N (Aug. 7, 2019, 10:00 AM), <https://www.ftc.gov/news-events/events-calendar/inside-game-unlocking-consumer-issues-surrounding-loot-boxes>.

294. *Id.* For more on the financial success of loot boxes, see Michael Baggs, *Genshin Impact Earns \$2 Billion After ‘Unheard Of’ Success in First Year*, BBC (Sept. 30, 2021), <https://www.bbc.com/news/newsbeat-58707297>.

295. Fair, *supra* note 292.

296. *Id.*

297. *Id.*

298. *Id.*

299. *Loot Boxes Likely To Be Banned in the Netherlands Due to Gambling Links*, USA TODAY: FOR THE WIN (July 4, 2022, 8:33 AM), <https://ftw.usatoday.com/2022/07/loot-box-ban-the-netherlands>.

300. *The Chopra Era at the Consumer Financial Protection Bureau — Four Months In*, SIDLEY AUSTIN LLP (Feb. 9, 2022), <https://www.sidley.com/en/insights/newsupdates/2022/02/the-chopra-era-at-the-consumer-financial-protection-bureau-four-months-in>.

historically has been the FTC and DOJ's agenda.<sup>301</sup> Similarly, when dealing with children, or any persons who invest, trade, and earn digital assets online, the issue of managing and handling such persons' financial data becomes important. Consumers' financial data implicates matters like data portability<sup>302</sup> and open banking standards,<sup>303</sup> which the CFPB is working on creating regulation for, interpreting section 1033 of the Dodd-Frank Act.<sup>304</sup>

Third, a new potential regulator should address privacy issues. The United States does not have a federal consumer data privacy law, let alone a data security law. Several states have started enacting their own laws and regulations, with California,<sup>305</sup> Virginia,<sup>306</sup> Colorado,<sup>307</sup> and Utah<sup>308</sup> being the first four states to pass such comprehensive data privacy legislation.

Fourth, a new potential regulator should address gambling laws. Gambling is legal under U.S. federal law, but there are significant restrictions pertaining to interstate and online gambling,<sup>309</sup> and each state is free to regulate or prohibit the practice within its borders.<sup>310</sup> As for children playing online games that in some aspects border gambling and focus on investing, earning, spending, and trading digital assets on addictive platforms, gambling laws might not

301. *CFPB Orders Tech Giants To Turn Over Information on Their Payment System Plans*, CONSUMER FIN. PROT. BUREAU (Oct. 21, 2021), <https://www.consumerfinance.gov/about-us/newsroom/cfpb-orders-tech-giants-to-turn-over-information-on-their-payment-system-plans/>.

302. Gabriel Nicholas, *Interoperability and Portability in the Wild*, ENGELBERG CTR. ON INNOV. L. & POL'Y 19 (Apr. 2021), [https://www.law.nyu.edu/sites/default/files/interoperability\\_and\\_portability\\_in\\_the\\_wild\\_202104.pdf](https://www.law.nyu.edu/sites/default/files/interoperability_and_portability_in_the_wild_202104.pdf).

303. Nizan Geslevich Packin, *Show Me the (Data About the) Money!*, 2020 UTAH L. REV. 1277, 1288 (examining consumers' ability to manage their financial data—an issue that has been unclear in the United States for a long time—and exploring the roles of data aggregators, fintech companies, and consumers in managing this data).

304. 12 U.S.C. § 5301.

305. CAL. CIV. CODE §§ 1798.100–199.100 (West 2022).

306. VA. CODE ANN. §§ 59.1-575 to -585 (2022).

307. COLO. REV. STAT. §§ 6-1-1301 to -1313 (2022).

308. UTAH CODE ANN. §§ 13-61-101 to -404 (LexisNexis 2022).

309. The Wire Act of 1961 outlaws the use of wire communication to make interstate bets or wagers for sports betting and was primarily motivated to help states suppress organized criminal gambling. The Act was intended to cover the use of telegraph wires; however, the government has extended it to cover internet communications, too. Following a Fifth Circuit holding in *In re Master-Card International, Inc.*, 313 F.3d 257 (5th Cir. 2002), that the law only applies specifically to sports betting and contests, the Department of Justice (DOJ), which had originally confirmed this approach in a 2011 memorandum, retracted this view in 2018, announcing that the law applies to all online gambling. See Elizabeth A. Walsh, *In Re Mastercard International, Inc.: The Inapplicability of the Wire Act to Traditional Casino-Style Games*, 20 J. MARSHALL J. COMPUT. & INFO. L. 445, 446 (2002); Natasha Bach, *Justice Department Says All Online Gambling Is Illegal*, FORTUNE (Jan. 15, 2019, 2:02 AM), <https://fortune.com/2019/01/15/online-gambling-illegal-doj/>. This opinion was challenged by the New Hampshire Lottery Commission in the U.S. District Court for the District of New Hampshire, which granted summary judgment against the government, holding that the law is limited to sports gambling and setting aside the DOJ's opinion. *N.H. Lottery Comm'n v. Barr*, 386 F. Supp. 3d 132 (D.N.H. 2019), *aff'd in part and vacated in part sub nom.*, *N.H. Lottery Comm'n v. Rosen*, 986 F.3d 38 (1st Cir. 2021).

310. See generally Jordan Hollander, *The House Always Wins: The World Trade Organization, Online Gambling, and State Sovereignty*, 12 RUTGERS J.L. & PUB. POL'Y 179, 182 (2015) (describing how almost all other states permit some type of gambling, except for Utah and Hawaii, which prohibit all forms of gambling in the state, with Utah even amending its criminal code to include prohibitions on internet gambling).



necessarily prove helpful in terms of offering protections. Indeed, most digital platforms—including fintech and DeFi apps and digital games with loot boxes—generally are not identifiable as gambling under most U.S. law.<sup>311</sup>

Fifth, a new potential regulator could also address digital investor protection and issues relating to nontraditional semi-securities laws, which include issues governed by the SEC and FINRA, if relevant and overlapping with the four other mentioned contexts. While regulating traditional financial institutions dealing with minors who enter into potential broker-dealer relationships can be challenging, doing so in connection with service providers that offer less traditional services is much more complicated. Indeed, the complexity and lack of clarity associated with some of the newer and more innovative fintech and DeFi products and services, and the challenges involved in addressing, understanding, and regulating them, led the SEC and CFTC in April 2022 to announce that they would coordinate regulating crypto exchanges of both securities and non-securities.<sup>312</sup>

Therefore, a new agency with the new DNA of staff and commissioners who are graduates of the multi-faceted digital environment is needed to apply new legislation to modern digital realities. Alternatively, since the CFPB's scope of authority overlaps the most with the issues described, designating it as the primary regulator—and creating an interagency task force to coordinate operations beyond its activities—might also prove effective. This is especially true given President Biden's March 2022 executive order on the regulation of crypto products and services, which directed the CFPB and FTC to study how to police crypto transactions for fraud and abuse.<sup>313</sup> The order did so in light of both agencies' unique powers to protect consumers against “unfair” and “deceptive” acts and practices, and the CFPB's additional authority to go after “abusive” acts and practices.<sup>314</sup> The CFPB's unique, broad enforcement authority could therefore play a significant role in overseeing digital money and crypto-related services and products in key areas like fraud protection and consumer privacy.<sup>315</sup>

## CONCLUSION

In less than a century, the world has witnessed a dramatic shift from scarcely granting children any rights to recognizing children's rights in the

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311. Katlin D. Kiefer, *From Video Gaming to Underage Gambling: Illinois's Options in Addressing the New Loot Box Monetization Model*, 41 N. ILL. U. L. REV. 96, 105 (2021).

312. See, e.g., Kevin Helms, *SEC Chair Gensler Asks Staff To Collaborate with CFTC on Regulating Crypto Exchanges*, BITCOIN.COM (Apr. 5, 2022), <https://news.bitcoin.com/sec-chair-gensler-asks-staff-to-collaborate-with-cftc-on-regulating-crypto-exchanges/>.

313. Exec. Order No. 14,067, 87 Fed. Reg. 14143 (Mar. 9, 2022).

314. Evan Weinberger, *Crypto Order Pushes Biden's Consumer Watchdogs to More Oversight*, BLOOMBERG (Mar. 17, 2022, 3:00 AM), <https://news.bloomberglaw.com/tech-and-telecom-law/crypto-order-pushes-bidens-consumer-watchdogs-to-more-oversight>.

315. *Id.*

formal language of laws and the judicial system. These rights include empowering children to enter into contractual transactions, including financial ones, with the permission of their guardians. However, allowing children to toy with digital financial games and apps to invest, earn, and trade traditional and cryptoasset products is far from ideal or wise, and probably not developmentally appropriate or desired. Will doing so lead to a generation of financially literate young adults, or will it lead to gambling addicts in debt with little appreciation for smart investing, on top of other potential harms resulting from using addictive digital services? It seems that the key to gaining the most from these newly accessible fintech possibilities, as with many other areas of the law related to children's development, is creating a careful, strict design of the products and services children have the legal capacity to access. This not only comports with children's law and rights, but also complies with general investor and consumer protection legal principles.