

Regulating Uncertainty: Loot Boxes in The Gaming Metaverse

Anthony Chen*

Cite as: Anthony Chen, *Regulating Uncertainty: Loot Boxes in The Gaming Metaverse*, 31 RICH. J.L. & TECH. 93 (2024).

* JD PhD Candidate, 2025, Vanderbilt University Law School. I would like to thank Professor Yesha Yadav, whose advising was bountifully given, and without whose assistance this paper would never have reached completion. I would also like to thank Dr. Daniel J. Gervais, Professor Jeffrey A. Schoenblum, and Professor Tracey E. George for providing their in-depth insight and putting up with all the weird questions I asked them when researching for this paper. Finally, I would like to thank the Richmond Journal of Law & Technology for their hard work and gracious efforts in bringing this article to publication.

Abstract

Loot boxes are an increasingly widespread monetization model in video games that utilize random chance when dispensing items. Their implementation and use may result in significant harm to consumers. At the same time, loot boxes confer many benefits to game companies and gamers that should factor into their regulation. These harms and benefits may not be apparent at first glance, so it is necessary to consider loot boxes contextually within their game and the broader community to have a proper holistic analysis of their effects. Their unique and varying design makes them a challenge to place within a single established regulatory regime. And while effective regulation for them may exist, feasible implementation may not be possible, and difficulties will arise when attempting to do so. While loot boxes may present a unique problem to regulators, a discussion considering their traits and attributes will serve to advance their effective regulation.

Table of Contents:

Introduction.....96

I. What are Loot Boxes and Why Do They Matter?100

 A. 184 Billion Reasons Why and 3 Billion Decisions to Make100

 B. A Loot Box by Any Other Name.....106

II. Loot Boxes in a Larger Context112

 A. So, what is the Rub?112

 B. The Value of a Statistical Loot Box117

III. Avenues for Harm and Regulatory Challenges.....127

 A. The Unseen Harm is The Deadliest.....127

 B. What is a Loot Box Without Its Game?.....135

 C. The Correct Regulatory Scheme May Not Be the Right Regulatory
 Scheme144

IV. Regulatory Solutions.....165

Conclusion193

Appendix..... Accompanying Document

INTRODUCTION

[1] After a long day of teaching classes, you do what every fellow of the law does: go to the golf course. You saw an ad in your social media feed for a newly opened local range, advertising free plays and no membership fees, with the club providing the equipment to boot. That was all you needed to see before heading over, not bothering to read the wall of endless fine print that followed. As you check in to play, you open the bag they provide you to find...Exactly 10 putters.

[2] Causing you to turn back to the smiling receptionist, who explains to you that the provided clubs are random and that you can only use equipment provided by the facility, and this was explained in that endless fine print. But not a problem, as you could pay one dollar to “randomly” swap one of the clubs in your bag or pay five dollars to receive another “random” set of ten clubs to swap between. Figuring this would probably still be less expensive than a visit to a traditional golf club¹, you pay for another bag of ten clubs and find...Exactly 10 putters.

[3] A thousand dollars later, you still lack a driver, and your bank has locked out your credit card due to suspicious activity. As you debate going to the nearby ATM to withdraw some cash to keep trying, your junior colleague assigned to teach 1L classes finishes for the day and stops by to release some stress as well. You watch as they, too, are handed a bag, which they open to find...A complete set of golf clubs, which they happily take to the range. This is when you contemplate whether you should have just taken the time to practice putting today.

¹ *How Much Is a Golf Club Membership and Is It Worth It? A Quick Guide*, RELIABILLS (Mar. 7, 2023), [https://www.reliabills.com/blog/how-much-is-a-golf-club-membership/\[perma.cc/JXD3-LG8Y\]](https://www.reliabills.com/blog/how-much-is-a-golf-club-membership/[perma.cc/JXD3-LG8Y]) (estimating average golf club memberships are around \$6,000 yearly).

[4] Welcome to the “loot box”² experience. Or, more accurately, the “gacha game”³ experience. You are not obligated to spend any money and can experience the entire golf course at no cost, albeit possibly in a hindered manner. Of course, you could get lucky and have a perfect costless experience. More often than not, though, a satisfactory session would require spending quite possibly a large sum. This is essentially what a video game player (“gamer”) experiences when playing a gacha game and opening loot boxes. An easy-to-access product with no upfront costs, mild inconveniences that accumulate in the gameplay experience, and solutions to these inconveniences that become progressively more expensive. And an element of “random” chance that adds a level of uncertainty, yet thrill, to the whole experience.

[5] It is no surprise, then, that loot boxes are the predominant monetization source for modern video games due to the advantages they offer for companies and their appeal to gamers.⁴ And video games themselves are an often-overlooked juggernaut, having comparable size to

² See John Woodhouse, *Loot Boxes in Video Games*, HOUSE COMMONS LIBR., (Aug. 13, 2024), <https://commonslibrary.parliament.uk/research-briefings/cbp-8498/> [perma.cc/Z43E-KS55] (explaining UK parliament’s definition of loot box as new vehicle for gambling).

³ See Jacob Amspaugh, *Is Gacha Gaming a Profitable Strategy?*, MICH. J. ECON. (Apr. 19, 2022), <https://sites.lsa.umich.edu/mje/2022/04/19/is-gacha-gaming-a-profitable-strategy/> [perma.cc/5FU6-K8H9] (explaining “gacha game” definition and profitability).

⁴ Matthew Forde, *PGC Helsinki Digital: Loot Boxes Are Still the "Number One Monetisation Method Used in Core Games" Globally on Mobile*, POCKET GAMER (Sept. 15, 2020), <https://www.pocketgamer.biz/asia/news/74489/pgc-helsinki-digital-loot-boxes-are-still-the-number-one-monetisation-method-used-in-core-games-globally-on-mobile> [perma.cc/42JY-CL8E].

other forms of entertainment studied in law schools.⁵ With approximately two-thirds of Americans playing video games,⁶ this is not some obscure legal hypothetical but rather something a typical citizen can experience. As such, the possible harms of loot boxes call for regulation.

[6] And while the number of people using loot boxes is increasing with time,⁷ there is not a commensurate increase in their overall understanding. Not by the general public, not by the interested regulators, and arguably not even by the legal academia exploring this topic. The existing legal literature on this topic largely focuses on classifying loot boxes as gambling and how such a regulatory scheme could cover them. For example, Washington University Law professor, Sheldon A. Evans argues that the value aspect of gambling in the context of loot boxes should encompass not only monetary value but also the perceived value by users to address their unconventional nature.⁸ And while evaluating loot boxes in the context of gambling may cover some of their issues, it is wholly insufficient to address the totality of their possible harms. Even if regulators entirely eliminated short-run

⁵ See Wallace Witkowski, *Videogames Are a Bigger Industry Than Movies and North American Sports Combined, Thanks to the Pandemic*, MARKETWATCH, <https://www.marketwatch.com/story/videogames-are-a-bigger-industry-than-sports-and-movies-combined-thanks-to-the-pandemic-11608654990> [perma.cc/BDR8-R9YN] (Jan. 2, 2021, 10:27 AM) (stating that global video games have larger total revenue than global box office and North American sports combined).

⁶ Press Release, Ent. Software Ass'n, *Video Games Remain America's Favorite Pastime with More than 212 Million Americans Playing Regularly* (July 10, 2023) (on file with author).

⁷ See Whitney DeCamp & Kevin Daly, *Loot Box Consumption by Adolescents Pre- and Post- Pandemic Lockdown*, PEERJ. (May 1, 2023), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10158757> [perma.cc/TQP6-MX46].

⁸ Sheldon A. Evans, *Pandora's Loot Box*, 90 GEO. WASH. L. REV. 376, 378 (2022).

chances from loot boxes,⁹ they could still pose risks with a design that encourages addiction and future uncertainty.

[7] This paper will scrutinize the gaps in regulatory consideration of loot boxes in gacha games, identifying a slew of risks not covered by the traditional regulatory solutions. It will focus on two main arguments. First, loot boxes do not fit well or neatly into any single traditional regulatory scheme, allowing them to avoid comprehensive legal scrutiny when only considered in narrow contexts. The second argument is that possible costs to users of these products can be enormous, insidious, and uncapped. Any attempt to address them must consider this when doing benefit-cost analysis (“BCA”) for possible regulation.

[8] The paper will be split into four parts. Part 1 will cover what a loot box is and how it operates in the context of gaming. Part 2 will focus on why loot boxes are important from a legal and broader economic perspective, while also considering what their current implementation and use illustrates from a theoretical perspective. Part 3 will create an inventory of potential caused by loot boxes and explain why these novel and interesting harms are important to regulate. Part 4 will present possible regulatory solutions, discuss the challenges of regulation, the difficulty of implementation, and how these proposed solutions may be superior to existing alternatives.¹⁰

⁹ E.g., Charlie Hall, *Now You Can Peek Inside Loot Boxes Before You Open Them in CS:GO, but Only in France*, POLYGON (Oct. 1, 2019, 12:40 PM), <https://www.polygon.com/2019/10/1/20893490/cs-go-loot-box-x-ray-scanner-france> [perma.cc/7UEW-CD3V] (detailing a gaming update in France that reveals the contents of loot boxes to users before opening).

¹⁰ An Appendix is included with this article to illustrate concepts explained in the paper and provide examples from specific games. References to the Appendix will be denoted in the paper with a footnote when applicable.

I. WHAT ARE LOOT BOXES AND WHY DO THEY MATTER?

A. 184 Billion Reasons Why and 3 Billion Decisions to Make

[9] The Loot Box is a catch-all term used to describe any sort of digital mechanism that provides the user with a prize from a set pool of items.¹¹ Beyond that, the term is ill-suited to aptly cover the large variation in their implementation and use. Loot boxes could dispense items randomly, pseudo-randomly, or from a fixed and non-replaced pool.¹² These loot boxes can be included as the main monetization method in a gacha game, or as a separate monetization scheme in a game that requires independent purchase.¹³ There is also no distinction given to whether these boxes require purchase with premium currency (in-game currency that can be purchased with real life fungible currency) or what types of items need to be in the possible prize pool.¹⁴ They may not even be boxes at all.¹⁵ As would be expected, this general (and rather loose) definition might create difficulty for proper guidance and regulation. Especially given that random chance mechanisms have been in video games since time immemorial. ****

[10] It would be futile to classify loot boxes into a particular legal scheme without fully understanding their operational set-up. It is impossible to cover every single type of loot box in existence, as there are essentially

¹¹ Patricia E. Vance, *What Parents Need to Know About Loot Boxes (and Other In-Game Purchases)*, ESRB (July 12, 2023), <https://www.esrb.org/blog/what-parents-need-to-know-about-loot-boxes-and-other-in-game-purchases/> [perma.cc/9M6K-GHJR].

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

infinite methods to create chance-based prize distribution systems.¹⁶ The theoretical maximum to obtain a specific item from certain loot boxes is infinite. Rather, the paper will assume loot boxes are: 1) a container with items 2) for which at least a portion of these items is random and unknown 3) that are drawn from a set list of items. This will serve as the foundational understanding of loot boxes, and variations of this simple model and their associated problems will be explored further in Part 3 of this paper.¹⁷

[11] It is first necessary to frame loot boxes within random chance mechanisms in video games generally. The presence of microtransactions in video games is nothing new, showing up prolifically in the free-to-play Massive Multiplayer Online Role-Playing Games (MMO) in the late 1990s and early 2000s.¹⁸ Nor is the sale of randomized chance for real money in games novel either, though it is often implemented through indirect mechanisms. This implementation of randomized chance may occur through methods such as making available the purchase of additional randomized item enhancement attempts (or increased odds on each attempt) or purchasing additional entries to fight enemies with a randomized reward table.¹⁹ These inclusions often created in-game situations which were theoretically accomplishable without the user needing to spend a penny but

¹⁶ E.g., Mihovil Grguric, *What Is a Gacha Game and How Does It Work?*, UDONIS (June 10, 2024), <https://www.blog.udonis.co/mobile-marketing/mobile-games/gacha-system> [perma.cc/QA9H-5FUR] (providing examples of several different types of gacha (loot box) systems, with some now outlawed in Japan).

¹⁷ See generally Appendix.

¹⁸ See Mike Diver, *Video Game Microtransactions Are Much Older Than You Think: The Shady Practice Has Already Celebrated Its 30th Anniversary*, GAMING BIBLE (Oct. 29, 2021, 11:36 AM), <https://www.gamingbible.com/features/video-game-microtransactions-are-much-older-than-you-think-20211029> [<https://web.archive.org/web/20240529145809/https://www.gamingbible.com/features/video-game-microtransactions-are-much-older-than-you-think-20211029>] [perma.cc/UA6A-3GZV].

¹⁹ See Appendix “Equipment System.”

were fundamentally impossible without monetary expenditure or taking an inordinate amount of time.²⁰

[12] Furthermore, the content contained within loot boxes should be noted. The practice of locking parts of a game behind real money expenditure is also timeworn, with numerous options like downloadable content (“DLC”²¹) and expansion packs that are also quite common outside the video game context.²² There is nothing inherently illegal about the piecemeal sale of a product, which reveals and emphasizes that the manner of obtainment should be the focus here.

[13] The randomized chance in games, the sale of chance, and the segregation of content behind monetary paywalls are not inherently problematic separately, but supposedly combining all three factors in one merits additional scrutiny when in the form of loot boxes.²³ All things considered, there is not a functional difference in outcomes between 1) placing chance directly in a game and monetizing additional opportunities

²⁰ E.g., Flashy_Apartment9791, *Xp/Hr and Hours Needed for Lvl300*, REDDIT (Sept. 29, 2022), https://www.reddit.com/r/Maplestory/comments/xqyd8m/xphr_and_hours_needed_for_lvl300/ [perma.cc/T6CB-8HYH] (discussing the time requirement to reach a milestone in game with and without paid features); E.g., Austin Wood, *After 10,000+ Hours Grinding, MapleStory's First Level 300 Player Slams the Brakes at 299.99 to Rant About the MMO and then Quit, All on a Dev-promoted Stream*, GAMESRADAR (Apr. 26, 2024), <https://www.gamesradar.com/games/mmo/after-10000-hours-grinding-maplestorys-first-level-300-player-slams-the-brakes-at-29999-to-rant-about-the-mmo-and-then-quit-all-on-a-dev-promoted-stream> [https://perma.cc/KL9Q-YMA9].

²¹ Kirstyn Amanda, *What Is DLC in Gaming? Understanding Downloadable Content*, HEWLETT-PACKARD (Aug. 29, 2024), <https://www.hp.com/us-en/shop/tech-takes/what-is-dlc-in-gaming> [perma.cc/Y4W4-GCQS].

²² E.g., *Digital Subscriptions*, N.Y. TIMES, <https://help.nytimes.com/hc/en-us/articles/115015852367-Digital-Subscriptions> [perma.cc/54CQ-GPAX] (showing the New York Times locking some articles behind a subscription system).

²³ Joseph Bradley, *Game Over for Loot-Boxes?*, WHITE & CASE (Nov. 11, 2019), <https://www.whitecase.com/insight-alert/game-over-loot-boxes> [perma.cc/ZC24-HRK5].

at those chances (item enhancement and enemy drop systems) and 2) separating the chance from the core gameplay and providing players free opportunities to this chance (contemporary loot boxes). In either case, the player has a possibility of receiving their most desired item without monetary expenditure, but sometimes they will need to spend money. Not to mention, loot boxes have been present in video games, though often indiscreetly, long before this enhanced scrutiny.²⁴ If loot boxes simply refer to any content bundle for which the user's receipt of items is not a fixed probability, then there are examples throughout the 2000's when such items were readily available in online games, though perhaps not nearly as prominently.²⁵

[14] So, if loot boxes have been around for around two decades at least, and even longer historically within video games in substance, if not form, then what is the contemporary issue? The issue arises because they are becoming commonplace and involve much more money.²⁶ The COVID-19 pandemic resulted in many new gamers,²⁷ bringing video game revenue and exposure to the general population to an all-time high. There are now over

²⁴ Steven T. Wright, *The Evolution of Loot Boxes*, PC GAMER (Dec. 8, 2017), <https://www.pcgamer.com/the-evolution-of-loot-boxes/> [perma.cc/9KKJ-USBY].

²⁵ See *The Origins of the Loot Box*, MAXIMUMPC (Oct. 1, 2019), <https://www.pressreader.com/usa/maximum-pc/20191001/282024738926332> [perma.cc/S5U8-QM4V] (stating that a loot box like system has been available in the online game, Maplestory, since 2004).

²⁶ See Tom Wijman, *Newzoo's Year in Review: The 2023 Global Games Market in Numbers*, NEWZOO (Dec. 19, 2023), <https://newzoo.com/resources/blog/video-games-in-2023-the-year-in-numbers> [perma.cc/K359-VGSE] (stating that the gaming industry made \$184 billion in 2023).

²⁷ 3, 2, 1 Go! *Video Gaming is at an All-Time High During COVID-19*, NIELSEN (June 2020), <https://www.nielsen.com/insights/2020/3-2-1-go-video-gaming-is-at-an-all-time-high-during-covid-19/> [perma.cc/JVQ8-GVBC] (providing data that video game usage was at an all-time high during COVID).

three billion gamers worldwide,²⁸ putting potential loot box problems on a much larger scale than when video games were a niche hobby. These issues are all the more significant, especially because this industry lacks commensurate regulation for its size. The compounding of mobile gaming²⁹ proliferation over time, with increasingly predominant monetization of these games through loot boxes, has brought attention to loot box issues to the forefront, especially given more generally present concern and criticism of video games.

[15] Ranging from national governments³⁰ to international organizations,³¹ a wide swath of the public does not hold particularly positive thoughts towards video games.³² In the past few decades, mobile ownership among children (and in general) has become nearly ubiquitous

²⁸ Josh Howarth, *How Many Gamers Are There? (New 2024 Statistics)*, EXPLODING TOPICS (June 11, 2024), <https://explodingtopics.com/blog/number-of-gamers> [perma.cc/57Z4-HKK6].

²⁹ See Dale John Wong, *60% of Entire Gaming Market Is Now Dominated by Mobile Gaming, Study Finds*, MASHABLE SE ASIA (May 27, 2022), <https://sea.mashable.com/tech-1/20432/60-of-entire-gaming-market-is-now-dominated-by-mobile-gaming-study-finds> [perma.cc/W6N8-8GEH].

³⁰ See Diksha Madhok, *Tencent Cracks Down on Screen Time After Chinese State Media Says Gaming Is 'Spiritual Opium'*, CNN BUS., <https://www.cnn.com/2021/08/03/investing/tencent-gaming-crackdown-hnk-intl/index.html> [perma.cc/TQ4B-HF7N] (Aug. 4, 2021, 12:15 AM).

³¹ *Gaming Disorder*, WORLD HEALTH ORG., <https://www.who.int/standards/classifications/frequently-asked-questions/gaming-disorder> [perma.cc/9KBP-AAMH].

³² Maeve Duggan, *Gaming and Gamers*, PEW RSCH. CENTER (Dec. 15, 2015), <https://www.pewresearch.org/internet/2015/12/15/gaming-and-gamers/> [perma.cc/3JWD-CBD5].

in the United States.³³ Not to mention, access to these games is not particularly restricted or limited; many smartphones now come preinstalled with the operating system app store³⁴ from which users can download these games relatively easily (assuming no restrictions such as parental controls are applied). When combining the chance aspect of loot boxes, how they often appeal to minors, and incidents when minors have spent substantial amounts of money on them,³⁵ it is no surprise that loot boxes have faced criticism.³⁶

[16] At its core, then, the issue with loot boxes is not their chance aspect but the ease of access to this chance and with little time investment combined with their availability through official channels. Rather than buying in-game currency through a possibly unreliable third-party³⁷ or

³³ See *At What Age Do Kids Start Getting Smartphones?*, MKTG. CHARTS (Apr. 25, 2022), <https://www.marketingcharts.com/demographics-and-audiences/teens-and-younger-225502> [perma.cc/X4HM-YTWU] (showing 88% of children ages 13-18 own smartphones).

³⁴ *Find the Google Play Store App*, GOOGLE PLAY HELP, <https://support.google.com/googleplay/answer/190860?hl=en> [perma.cc/BD8S-2WX3] (last accessed Jan. 13, 2024) (providing an official source that the Google Play Store is pre-installed on android devices).

³⁵ E.g., Grace Yeoh & Christy Yip, *'I Spent \$20,000 of My Parents' Money on Mystery Boxes': When Lines Between Gaming and Gambling Are Blurred*, CNA INSIDER, <https://www.channelnewsasia.com/cnainsider/spent-parents-money-mystery-loot-boxes-gaming-problem-gambling-2050696> [perma.cc/U83H-8MPW] (Feb. 12, 2022, 8:06 PM) (documenting a minor who spent over SGD\$20,000 of parents' money on loot boxes).

³⁶ E.g., Jason W. Osborne, *How Loot Boxes in Children's Video Games Encourage Gambling*, FORBES, <https://www.forbes.com/sites/jasonwosborne/2023/05/25/how-loot-boxes-in-childrens-video-games-encourage-gambling/> [perma.cc/STM9-KMV5] (May 25, 2023, 11:46 AM).

³⁷ E.g., *Buy Game Currency: Gold, Silver, Coins, Plats and More*, PLAYERAUCTIONS, <https://www.playerauctions.com/about/buy-game-gold/> [perma.cc/Z333-P7TY].

spending long hours playing to acquire resources for³⁸ a chance-based enhancement system, a player can open loot boxes quickly after they input their purchase information directly in-game. In the same vein, in a drop-based system, players utilizing loot boxes would not have to spend the time defeating an enemy for random drops. As such, the primary concern for loot boxes should not be chance, but that this chance has few acquisition barriers, and that gamers have high confidence in the reliability of this acquisition. The problems that can arise from these two factors will serve as the central point for possible harm and regulatory focus for the remainder of the paper.

B. A Loot Box by Any Other Name

[17] It must be emphasized that most of the general (and academic) discourse surrounding loot boxes is negative. There are many possible reasons why criticisms of loot boxes are mostly prevalent, rather than any potential benefits (which are mostly expounded by those with self-interest in their unchecked proliferation and represent a biased viewpoint as well³⁹). Much criticism of loot boxes comes from parents, who may have been affected by their child's spending spree.⁴⁰ It is no secret that a portion of

³⁸ See Derek Stauffer, *Spend 4528 Hours or \$2100 to Unlock Star Wars: Battlefront II Content*, SCREEN RANT (Nov. 15, 2017), <https://screenrant.com/star-wars-battlefront-2-content-unlock-time/> [perma.cc/R4D6-AVY9] (detailing the amount of time to unlock all content in a particular game for free).

³⁹ See Bree Royce, *EA Claims Star Wars Battlefront II's Business Model Aims to 'Provide Players with a Sense of Pride and Accomplishment'*, MASSIVELY OVERPOWERED (Nov. 13, 2017, 11:30 AM), <https://massivelyop.com/2017/11/13/ea-claims-star-wars-battlefront-iis-business-model-aims-to-provide-players-with-a-sense-of-pride-and-accomplishment/> [perma.cc/26JP-QLPT] (explicating company justification of loot boxes).

⁴⁰ See Yeoh & Yip, *supra* note 35.

parents generally hold negative attitudes towards video games.⁴¹ A typical parent would likely have more complaints about their child playing video games for an extended period of time than a sport that can cause a physical injury.⁴²

[18] Moreover, some parents have experienced substantial financial loss from their children's loot box expenditure, even if this may not be a common occurrence overall.⁴³ Evidence suggests that individuals respond more to the negatives of losses than the positives from gains,⁴⁴ so the opposition is unsurprising. However, for the child to have purchased a loot box, the parents had to have made available to the children some method of purchase. Of course, children may utilize their parents' monetary assets without authorization.⁴⁵ Games and platforms also make it easy to spend

⁴¹ See *How Parents Perceive Their Children's Video Game Habits*, FRONTIER, <https://frontier.com/resources/e-is-for-everyone-video-game-study> [perma.cc/S78U-DZB7].

⁴² See Lisa Rapaport, *Parents Think Teens Spend Too Much Time Playing Video Games*, REUTERS (Jan. 20, 2020, 3:00 PM), <https://www.reuters.com/article/idUSKBN1ZJ25L/> [perma.cc/Y4UC-KXV7].

⁴³ See Aaron Astle, *UK Kids Are Most Likely to Make In-Game Purchases, but Only 4% Spend on Loot Boxes*, POCKET GAMER (Oct. 11, 2023), <https://www.pocketgamer.biz/uk-kids-are-most-likely-to-make-in-game-purchases-but-only-4-spend-on-loot-boxes/> [perma.cc/8EV8-RU6Y] (reporting that only 24% of children surveyed spent real money on games).

⁴⁴ See Scott DeAngelis & W. Kip Viscusi, *When to Walk Away and When to Risk It All*, 21 J. SPORTS ECON. 525, 526–29, 532, 535–46 (2020).

⁴⁵ See Dawn Papandrea, *46% of Parents Say Their Child Used Their Credit or Debit Card Without Permission, Racking Up \$500+*, LENDINGTREE (Mar. 1, 2022), <https://www.lendingtree.com/credit-cards/study/kids-and-credit-cards-survey/> [perma.cc/2FM3-9LZL].

and save spending information,⁴⁶ but it is arguable that in many cases, parents are contributorily negligent to their child's excess purchases yet shift the blame entirely to loot boxes.

[19] Another portion of the criticism comes from gamers themselves.⁴⁷ However, this population is not a uniform monolith, and this criticism is likely coming from a specific subset of gamers. For example, those who primarily play on consoles with traditionally single-purchase games. This subset is likely to have higher income and be more willing to spend⁴⁸ than the average gamer, as it requires initial investment in hardware⁴⁹ that lacks alternative uses compared to a personal computer or mobile device. The author imagines the legal academia pursuing this topic may fall into this

⁴⁶ See, e.g., Shareen Pathak, *End of an Era: Amazon's 1-Click Buying Patent Finally Expires*, DIGIDAY (Sept. 13, 2017), <https://digiday.com/marketing/end-era-amazons-one-click-buying-patent-finally-expires/> [perma.cc/XX9P-JXVR] (explaining how 1-click purchase feature allows customers to make purchases without re-entering billing, payment, or shipping information).

⁴⁷ Joel Hruska, *Most Gamers Hate Buying Loot Boxes, So Why Are Games Using Them?*, EXTREMETECH (Oct. 13, 2017), <https://www.extremetech.com/gaming/257387-gamers-hate-buying-loot-boxes-games-using> [perma.cc/RBV4-7QYK].

⁴⁸ See Derek Strickland, *Console Gaming Has Highest Play-To-Pay Conversion Rate, Analyst Firm Newzoo Says*, TWEAKTOWN, <https://www.tweaktown.com/news/92188/console-gaming-has-highest-play-to-pay-conversion-rate-analyst-firm-newzoo-says/index.html> [perma.cc/Q3KG-9FCL] (July 21, 2023, 1:27 AM); see also Sarah Fields, *Study Says PlayStation Gamers Earn More Money Than Those on PC and Xbox*, GAME RANT (Oct. 15, 2024) <https://gamerant.com/study-playstation-gamers-earn-more-money-pc-xbox/> [perma.cc/8XXZ-ZJF9].

⁴⁹ See Jordan Sirani & Jonathon Dornbush, *Update: Comparing the Price of Every Game Console, with Inflation*, IGN, <https://www.ign.com/articles/comparing-the-price-of-every-game-console-with-inflation> [perma.cc/M5BV-PV5Y] (Sept. 18, 2020, 2:53 PM) (listing prices for traditional game consoles).

category as well due to the socioeconomic makeup of law schools.⁵⁰ In the view of these gamers, the alternative to loot boxes is that the games would always be single-purchase commodities instead.⁵¹

[20] This assumption is not necessarily correct because for many of these games, the alternative is that they do not exist at all.⁵² Often, people only see the successful examples and assume that is typical—a unicorn effect.⁵³ However, even with the ability to monetize off loot boxes, many companies

⁵⁰ See Matt Bruenig, *Law Schools Don't Help the Poor Get Rich — They Help the Rich Stay Rich*, WEEK, <https://theweek.com/articles/447591/law-schools-dont-help-poor-rich--help-rich-stay-rich> [perma.cc/4XP7-L2JE] (Jan. 11, 2015) (asserting that U.S. law schools are mostly attended by wealthy students).

⁵¹ See *infra* note 57 (interviewing a gamer about his preference for single purchase commodities over loot boxes).

⁵² See F.T.C., *Inside the Game: Unlocking the Consumer Issues Surrounding Loot Boxes* 24–26, 71–75, 220–21 (Workshop, Aug. 7, 2019) [hereinafter *Inside the Game*], https://www.ftc.gov/system/files/documents/public_events/1511966/loot_boxes_workshop_transcript.pdf [perma.cc/WQ6D-HQRY] (providing testimony that regulation of loot boxes and other in-game purchases could create a barrier of entry for small and independent game developers).

⁵³ See Erik Ralston, *The Unicorn & The Rhino*, MEDIUM (Sept. 14, 2020), <https://erikralston.medium.com/the-unicorn-the-rhino-aef29298d644> [perma.cc/C47J-Y5D4] (explaining the concept of a “unicorn” company as a highly successful but practically unobtainable example when it comes to technology startups).

are unable to sustain themselves.⁵⁴ Fewer companies mean fewer choices, and this usually makes things worse for consumers.⁵⁵

[21] Even if companies do develop games with loot boxes, they can choose not to publish that game in a territory with regulation hostile to loot boxes, rather than removing them or otherwise altering the game to comply.⁵⁶ In such a case, those who would have been adversely impacted by the game benefit. However, the typical gamer who would have played the game will lose utility from the restriction. And from a monetary perspective, that would likely be the majority of them.⁵⁷

[22] Another motivating factor for criticism could be paternalism, as individuals attempt to justify regulation based on their subjectively held

⁵⁴ See Kate Irwin, *14k: Chinese Gaming Companies Have Gone Out of Business Since July 2021*, INPUT (Jan. 3, 2022), <https://www.inverse.com/input/gaming/14000-chinese-gaming-companies-have-shut-down-as-licensing-stops> [perma.cc/F2S3-THUE] (reporting that Chinese government constraints on gaming have caused small game developers to go out of business).

⁵⁵ See Nathan Cheek et al., *Is Having Too Many Choices (Versus Too Few) Really the Greater Problem for Consumers?*, BEHAV. SCIENTIST (Oct. 3, 2022), <https://behavioralscientist.org/is-having-too-many-choices-versus-too-few-really-the-greater-problem-for-consumers/> [perma.cc/6S3F-XKQ8].

⁵⁶ See Alex Hern, *Square Enix Pulls Three Games from Belgium After Loot Box Ban*, GUARDIAN (Nov. 21, 2018, 4:57 PM), <https://www.theguardian.com/games/2018/nov/21/square-enix-pulls-games-mobius-final-fantasy-belgium-loot-box-ban> [perma.cc/7D7T-DAN3]; see also Amrita Khalid, *Nintendo Pulls Two Mobile Games in Belgium Due to Loot Box Laws*, ENGADGET (May 21, 2019), <https://www.engadget.com/2019-05-21-nintendo-pulls-two-mobile-games-in-belgium-due-to-loot-box-laws.html> [perma.cc/YWD7-GZSQ] (detailing examples of companies pulling games out of banned localities).

⁵⁷ See Andrei Klubnikin, *Microtransactions in Games: The Good, the Bad, and the Ugly*, GAMEANALYTICS (Feb. 14, 2018), <https://gameanalytics.com/blog/microtransactions-games-good-bad-ugly/> [perma.cc/33GA-7BNZ] (stating that 1.9% of gamers make up 90% of revenue).

beliefs that vast expenditure on a loot box can never be worth its valuation.⁵⁸ The author considers this criticism to be a normative assessment that needs to be separated from positive exploration into possible harmful consequences of loot boxes. For a more traditional hobby comparison, Super Bowl tickets are upwards of several thousand dollars⁵⁹ and are consumed after use, whereas items obtained from loot boxes typically remain usable until termination of the game. Certainly, most people who watch sports would not purchase tickets to the Super Bowl, just as most gamers are not big spending “whales⁶⁰.” Both groups simply represent the upper echelon of spenders in their activity. If gacha games were mainstream and football was not, we might see law review articles arguing for the outlaw of Super Bowl ticket sales.

[23] When considering possible regulation or other legal avenues to affect loot boxes, it should be necessary to consider both the costs and benefits. Focusing solely on the harms can make society worse off, or possibly even exacerbate the existing problem further by not considering the entire environment under which they operate. The only thing that can be worse than no regulation is bad regulation. And while a loot box by any other name would be just as harmful, it would be equally just as beneficial.

⁵⁸ See *Op-ed: Game Companies Need to Cut the Crap – Loot Boxes Are Obviously Gambling*, ARS TECHNICA (May 28, 2018, 10:00 AM), <https://arstechnica.com/gaming/2018/05/op-ed-game-companies-need-to-cut-the-crap-loot-boxes-are-obviously-gambling/> [perma.cc/PGB4-XJXB].

⁵⁹ E.g., Jake Aferiat, *How Much Are Super Bowl Tickets 2022? Here Are the Cheapest & Most Expensive Seats for SoFi Stadium*, SPORTING NEWS (Feb. 3, 2022, 8:10 AM), <https://www.sportingnews.com/us/nfl/news/super-bowl-tickets-2022-cheapest-expensive/1c4te6dxv9ham1tlfcf554geco> [perma.cc/2A95-HZXU].

⁶⁰ See Jon Cifuentes, *Half of All Mobile Games Revenue Reportedly Comes from Only 0.19% of Players*, VENTUREBEAT (Mar. 23, 2016, 5:00 AM), <https://venturebeat.com/mobile/half-of-all-mobile-games-revenue-comes-from-only-0-19-of-players-report/> [perma.cc/S4BU-2YMR] (finding that 0.19% of gamers make up half of revenue).

II. LOOT BOXES IN A LARGER CONTEXT

A. So, what is the Rub?

[24] Loot boxes should be of concern in the United States as the largest market for video games.⁶¹ Along with China and Japan, it accounts for two-thirds of mobile game revenue⁶² worldwide, with mobile gaming itself accounting for roughly half of all video game revenue.⁶³ China and Japan are important example countries for regulations on the matter, and for other reasons. One reason would be that many of the predominant gacha game publishers are based in those two countries, thus affecting the conformity of their games to local regulations.⁶⁴ Others would be the differences in gambling regulation in those countries compared to the United States, as well sentiments of gamers to loot boxes and their purchasing.

[25] Loot boxes are commonly compared to the traditional area of law: gambling.⁶⁵ On one hand, in the United States, gambling is illegal in only

⁶¹ *Top Countries and Markets by Video Game Revenues*, NEWZOO, <https://newzoo.com/resources/rankings/top-10-countries-by-game-revenues> [perma.cc/J6B8-N2ED].

⁶² Sara Lebow, *These 5 Countries Produced 75% of All Mobile Gaming Revenues in 2020*, EMARKETER (July 12, 2021), <https://www.emarketer.com/content/countries-produced-mobile-gaming-revenues-2020> [perma.cc/NT5A-YJHM].

⁶³ See Pallavi Rao, *50 Years of Video Game Industry Revenues, by Platform*, VISUAL CAPITALIST (Dec. 31, 2023), <https://www.visualcapitalist.com/video-game-industry-revenues-by-platform/> [perma.cc/89L4-ZTP6].

⁶⁴ E.g., Neil Long, *2022's Top Grossing Mobile Game Publishers*, MOBILEGAMER.BIZ (Jan. 5, 2023), <https://mobilegamer.biz/2022s-top-grossing-mobile-game-publishers/> [perma.cc/77H7-GCMN]; see also Neil Long, *2022's Top Grossing Mobile Games: Honor of Kings, PUBG Mobile, Genshin Impact and More*, MOBILEGAMER.BIZ (Jan. 3, 2023), <https://mobilegamer.biz/2022s-top-grossing-mobile-games-honor-of-kings-pubg-mobile-genshin-impact-and-more/> [perma.cc/MDR6-J54A] (showing that the list of highest grossing publishers is largely filled with companies based in China or Japan).

two states: Hawaii and Utah.⁶⁶ On the other hand, in mainland China, gambling is strictly regulated,⁶⁷ with Macau being the only Chinese territory where commercial gambling in a casino is legal.⁶⁸ Most forms of gambling are also restricted in Japan, including casino gambling, but a legal gray area allows a similar experience through their pachinko machines.⁶⁹ Pachinko players wager balls to have a chance of receiving more balls, and these balls can be exchanged for prizes that are not cash; however, nearby locations will exchange them for cash.⁷⁰ There are clear differences among countries towards gambling; if the United States could be said to be the least restrictive, then China would be the most restrictive, with Japan somewhere in between.

⁶⁵ *E.g.*, James Goddard, *Loot Boxes in Computer Games: Are They a Form of Gambling?*, UK PARLIAMENT (Oct. 6, 2022), <https://lordslibrary.parliament.uk/loot-boxes-in-computer-games-are-they-a-form-of-gambling/> [perma.cc/5JNY-RJPA] (comparing loot boxes to gambling).

⁶⁶ *Which States Do Not Allow Casinos?*, VISIT BLACK HAWK, <https://visitblackhawk.org/blog/which-states-do-not-allow-casinos> [perma.cc/H7SB-U5MU].

⁶⁷ *See* Charles Li et al., *Gaming Law 2023*, CHAMBERS AND PARTNERS (Nov. 28, 2023), <https://practiceguides.chambers.com/practice-guides/gaming-law-2023/china/trends-and-%20developments> [perma.cc/7AR7-VDJ4].

⁶⁸ Lionel Lim, *Macau Is Back as the World's Top Gambling Hub—and Casino Companies Like Las Vegas Sands Are Starting to Reap the Rewards*, YAHOO! FIN. (Oct. 19, 2023), <https://finance.yahoo.com/news/macau-back-world-top-gambling-113032022.html> [perma.cc/GLN2-TJB8].

⁶⁹ *See* Eric Johnston, *How Japan Ensures You Gamble Exactly When and Where It Wants You to*, JAPAN TIMES (June 8, 2023), <https://www.japantimes.co.jp/news/2023/06/08/national/gambling-pachinko-sports/> [perma.cc/78ZA-JPLP].

⁷⁰ *Id.*

[26] Given the human propensity to overestimate low-probability high-impact risks rather than low-visibility high-probability risks,⁷¹ even a few large events would be enough to attach a negative label to loot boxes. It is no wonder that the default classification scheme for loot boxes to some would be gambling. Considering loot boxes generally have a negative framing, as a known vice, gambling is a similar comparator that the government already regulates and has a compelling interest in regulating. As long as the extension from one to another holds, then the rationale and framework for government regulation of loot boxes is already in place. Conversely, if the comparison is not apt, then the support behind regulatory rationale erodes, and there must be additional or alternative justifications for legal intervention for loot boxes.

[27] However, because exposure to gambling is different among countries, it is no surprise that expenditures and attitudes towards loot boxes vary among them. More than 70% of Chinese mobile gamers are okay with spending money on in-game purchases⁷² and are less concerned about what can be purchased than United States gamers.⁷³ Japanese gamers also spend more money on average than their counterparts in the United States.⁷⁴ And

⁷¹ W. Kip Viscusi, *The Value of Risks to Life and Health*, 31 J. ECON. LITERATURE 1912, 1918, 1942 (1993).

⁷² *China's Mobile Gamers and Money Spenders – Who Are They?*, TOLUNA (Mar. 10, 2021), <https://tolunacorporate.com/chinas-mobile-gamers-and-money-spenders-who-are-they/> [perma.cc/GPU2-QPHZ].

⁷³ Eustance Huang, *Americans Largely Won't Pay to Win a Video Game — but Chinese Gamers Will*, CNBC, <https://www.cnbc.com/2018/05/30/pay-to-win-video-games-differences-between-us-and-chinese-gamers.html> [perma.cc/5TZ9-EXY7] (May 31, 2018, 10:18 PM) (stating Chinese gamers more accepting pay-to-win mechanics in games).

⁷⁴ Irina Ignatova, *From Samurai to Super Mario: Japanese Gamers Research*, 80 LEVEL RSCH. (Apr. 25, 2023), <https://80.lv/articles/from-samurai-to-super-mario-japanese-gamers-research> [perma.cc/UG53-CJMV].

while individual accounts vary, at least some are satisfied with their large expenditures in these games.⁷⁵ Given the differences in experiences and cultures, sophistication and sentiment could vary vastly across countries.

[28] This spending behavior is particularly relevant when loot boxes are framed problematically in a monetary context, often with one thousand dollars serving as a threshold of when spending becomes problematic.⁷⁶ Implicit in this behavior is again a normative judgment of value, rather than a positive analysis from legal principles. After all, plenty of hobbies can run greater than one thousand dollars; for example, admission to a single sporting event.⁷⁷ Present here is the underlying premise that video games have served as a punching bag to attribute problems for years.⁷⁸ Furthermore, focusing purely on a monetary perspective will overlook other important aspects. Addiction is addiction, whether it is spending one dollar

⁷⁵ E.g., Daniel Epstein & Miho Inada, *Meet the Man Who's Spent \$70,000 Playing a Mobile Game*, WALL ST. J. (Mar. 15, 2018, 5:47 AM), <https://www.wsj.com/articles/meet-the-man-whos-spent-70-000-playing-a-mobile-game-1521107255> [perma.cc/4UCE-YNT5] (detailing satisfaction by a player who spent more than \$70,000 in a game).

⁷⁶ See Adam Clarkson, *Coronavirus: The Gamers Spending Thousands on Loot Boxes*, BBC (Nov. 12, 2020), <https://www.bbc.com/news/uk-england-54906393> [perma.cc/3C6Y-YPB3] (discussing examples of “problematic spending”).

⁷⁷ E.g., Kate Gibson, *How Much Were 2024 Super Bowl Tickets? See Average, Cheapest and Most Expensive Prices for the Game*, CBS NEWS, <https://www.cbsnews.com/news/how-much-super-bowl-2024-tickets-prices/> [perma.cc/T458-YTH4] (Feb. 12, 2024, 3:10 AM) (showing Super Bowl ticket prices).

⁷⁸ See Timothy Geigner, *Video Games, Once Demonized, More Regularly Utilized for Positive Health Benefits*, TECHDIRT (Aug. 18, 2021, 8:34 PM), <https://www.techdirt.com/2021/08/18/video-games-once-demonized-more-regularly-utilized-positive-health-benefits/> [perma.cc/MC9Q-ZRZ9] (detailing how video games historically have bad reputation but can have health benefits).

or one thousand dollars, and an even more harmful loss such as the temporal loss of excess time spent due to addiction could be passed over.⁷⁹

[29] Not to mention, the default assumptions for discussing loot boxes are often framed in reference to familiarity, and their issues are premised on those assumptions. This likely results in inconclusive or even possibly incorrect analysis. For example, loot boxes are often associated with an already purchased game.⁸⁰ This may be attributed to the high proportion of United States gamers who play on consoles⁸¹ compared to a country like China.⁸² Often, though, loot boxes are the only form of monetization for a free-to-play gacha game and are more thoroughly integrated into gameplay compared to stand-alone purchase games.

[30] As such, any attempt to address the problem must be contextually dependent and should seek to distill loot boxes into the mechanisms that can cause harm as part of the game. Focusing on just the loot box rather than how they operate within the game and the community of gamers playing the game would be missing the forest for the trees. Thus, this paper will integrate the workings of a loot box within a game and the considerations made when interacting with them into arguments on regulation.

⁷⁹ Clarkson, *supra* note 76 (providing examples of varying addictive spending habits on loot boxes).

⁸⁰ E.g., Jake Nichols, *EA FC 24's "Broken" \$30 Pack Has Players Outraged as "Pay-To-Win" Race Starts Early*, DEXERTO (Oct. 3, 2023, 12:32 AM), <https://www.dexerto.com/ea-sports-fc/broken-pack-has-players-outraged-as-pay-to-win-race-starts-early-2319820/> [perma.cc/7DJ2-5BER] (example of loot boxes in a game).

⁸¹ See *US Gaming Console Market Size & Share Analysis - Growth Trends & Forecasts (2024 – 2029)*, MORDOR INTEL., <https://www.mordorintelligence.com/industry-reports/united-states-gaming-console-and-accessories-market> [perma.cc/NM99-RV8W] (finding that 52% of US gamers use a dedicated console).

⁸² See *Console Games in China & 5-Year Forecast Report*, NIKO (June 2023), <https://nikopartners.com/china-console-games/> [perma.cc/2ANM-EUSB] (stating that only 16.7 million out of 730 million Chinese gamers have consoles).

B. The Value of a Statistical Loot Box

[31] When considering BCA of loot boxes, their impact on the gacha game in which they reside is quintessential. After all, gamers have no reason to purchase these loot boxes for themselves lest they play the game, and the income generated from loot boxes is what funds the development of other game aspects. Furthermore, the BCA would benefit from some premised assumptions, such as the rates of items in the loot box being available⁸³ and games guaranteeing items after a certain number of loot boxes.⁸⁴ While these assumptions are not absolute, they are increasingly commonplace in gacha games. Furthermore, games without these assumptions have a much weaker case against (stricter and more intrusive) regulation, which will be addressed when assessing BCA.

[32] A simple but faulty assumption often made when addressing loot boxes is that their monetization of chance has made gamers worse off and that a reversion to older monetization models would be beneficial. Accessing traditional chance mechanisms in video games often required thoroughly tedious “grinding” by players, which may be equally or more addictive than opening loot boxes.⁸⁵ The temporal losses from this grinding

⁸³ See Adi Robertson, *Google’s Play Store Starts Requiring Games with Loot Boxes to Disclose Their Odds*, VERGE (May 29, 2019, 4:49 PM), <https://www.theverge.com/2019/5/29/18644648/google-play-store-loot-box-disclosure-family-friendly-policy-changes> [perma.cc/64E9-SMUV] (detailing google play store requirements on loot boxes).

⁸⁴ See Maeri Mgdrg, *What Is ‘Pity’ in Gacha Gaming?*, FANDOMSPOT, <https://www.fandomspot.com/what-is-gacha-pity/> [perma.cc/SFK2-N49P] (last accessed Jan. 16, 2025) (explaining pity in gacha games).

⁸⁵ See Jason Pargin, *The Secret Reason so Many Video Games Are a Tedious Grind*, CRACKED (Aug. 21, 2019), <https://www.cracked.com/blog/the-secret-reason-so-many-video-games-are-tedious-grind> [perma.cc/NHZ4-K9VF] (explaining addictiveness of grinding).

gameplay (and monetary costs players might incur to shorten it⁸⁶) could actually be higher than the pecuniary losses from overspending on loot boxes from addiction. In fact, many gacha games intentionally design gameplay time limits.⁸⁷ Sisyphus may push the boulder eternally, but not if the boulder is locked behind a ticketing gate requiring payment for entry. It is an improper assumption that the counterfactual to loot boxes would be more beneficial to gamers, even if the gaming industry utilized an entirely new monetization model.⁸⁸

[33] Another implied assumption regarding loot boxes is the counterfactual that limiting their monetization will instead cause developers to monetize through single-transaction purchases, or, at the very least, that all items will be available through direct purchase without any corresponding quality loss. Even if that were true, it may not necessarily benefit gamers generally. The population of interest for loot box regulation should be all gamers. While there are specific groups who are more vulnerable to the possible harms from loot boxes, crafting the BCA for loot box regulation should consider their entire user population.⁸⁹ After all, reducing all automobile-related deaths to nothing would simply need doing away with all automobiles, but there are benefits to automobiles that society has judged to outweigh the costs. In the same vein, loot boxes may confer

⁸⁶ E.g., *Premium Timesavers Pack*, EA, <https://www.ea.com/games/need-for-speed/need-for-speed-most-wanted/premium-timesavers-pack/buy-microcontent> [perma.cc/QCN4-L424] (providing an example of buying less gameplay).

⁸⁷ See *Mobile Game Mechanics: Basic, Advanced, and Emerging: The Ultimate List*, APPSAMURAI (Apr. 27, 2023), <https://appsamurai.com/blog/mobile-game-mechanics/> [perma.cc/7HK8-52E4] (explaining energy system in video games).

⁸⁸ See Will Bedingfield, *It's Not Just Loot Boxes: Predatory Monetization Is Everywhere*, WIRED (July 28, 2022, 7:00 AM), <https://www.wired.com/story/loot-boxes-predatory-monetization-games/> [perma.cc/TH7Y-4B4F].

⁸⁹ See Press Release, The White House, Biden-Harris Administration Releases Final Guidance to Improve Regulatory Analysis (Nov. 9, 2023) (on file with author) (explaining rules on crafting agency regulation for populations).

benefits in tandem with their costs, which should be considered when deciding if and how to regulate them.

[34] Take the comparison of the standard \$60 single-purchase game⁹⁰ traditional to consoles. A proportion of gamers who buy the game are better off since they value the game at more than \$60 but were able to buy at retail price, which is the consumer surplus.⁹¹ Additionally, the game company would have been willing to sell fewer units at a lower price point but are better off since they can sell all their units at retail price, which is the producer surplus.⁹² Some gamers and game companies benefit from this arrangement.

[35] Now, take the typical gacha game. While it is essentially free to acquire and play, the gamer will most certainly only get access to a limited portion of it without spending. The proportion may vary, but normally the core gameplay is available without cost, making the majority of the game available for free. However, it is likely impossible to experience all game aspects without spending money. Even so, gamers who were not willing to pay \$60 for the game benefit because they may be willing to pay less than that for a portion of the game. The game companies also benefit since they can extract extra value from those with a higher willingness to pay⁹³ more than \$60, which they could not previously under the fixed price point. The

⁹⁰ Justin Ho, *Why More New Video Games Now Cost \$70*, MARKETPLACE (Feb. 10, 2023), <https://www.marketplace.org/2023/02/10/why-more-new-video-games-now-cost-70/> [perma.cc/5W5L-6AVG].

⁹¹ *Lesson Overview: Consumer and Producer Surplus*, KHAN ACAD., <https://www.khanacademy.org/economics-finance-domain/microeconomics/consumer-producer-surplus/consumer-producer-surplus-tut/a/lesson-overview-consumer-and-producer-surplus> [perma.cc/ZQK5-AMKL] (last accessed Jan. 16, 2025).

⁹² *Id.*

⁹³ See Tim Stobierski, *Willingness to Pay: What It Is & How to Calculate*, HARV. BUS. SCH. (Oct. 20, 2020), <https://online.hbs.edu/blog/post/willingness-to-pay> [perma.cc/M93V-87AM].

amount recovered by the company would not exactly correspond to the lost consumer surplus, as consumers are only gaining access to a portion of the game with increased expenditure. However, the total societal utility (the sum of how much gamers benefit as a whole) is likely increasing, given that most gamers are low or non-spenders.⁹⁴ Thus, most gamers, as well as the company itself (assuming total costs remain equal), benefit from the loot box model.⁹⁵

[36] Furthermore, gamers have better access to information on their preferences in a gacha game. Utilization and discontinuation of a gacha game is frictionless in comparison to a single purchase game. As such, they are subject to much less information asymmetry.⁹⁶ For a single purchase game, the gamer must make a monetary expenditure before accessing it. Given that many platforms do not have particularly flexible refund policies,⁹⁷ the players assume a risk when buying a single-purchase game with incomplete information that they will not gain the expected utility. In a gacha game, however, gamers typically can experience most of the core gameplay before making a financial transaction. This provides gamers with more information on whether they actually derive the requisite utility before making a monetary expenditure. That is not to say players have perfect information when purchasing loot boxes for an item they may regret, but

⁹⁴ See Cifuentes, *supra* note 60.

⁹⁵ See Forde, *supra* note 4; see also Kellie Ell, *Video Game Industry Is Booming with Continued Revenue*, CNBC, <https://www.cnbc.com/2018/07/18/video-game-industry-is-booming-with-continued-revenue.html> [perma.cc/QWM2-FBX8] (July 20, 2018, 6:47 PM) (detailing benefits to companies for loot box model).

⁹⁶ Andrew Bloomenthal, *Asymmetric Information in Economics Explained*, INVESTOPEDIA, <https://www.investopedia.com/terms/a/asymmetricinformation.asp> [perma.cc/ZCJ3-EEAD] (Aug. 22, 2024).

⁹⁷ E.g., *Common Refund Questions*, STEAM, <https://help.steamowered.com/en/faqs/view/5FDE-BA65-ACCE-A411> [perma.cc/8H6H-ML39] (stating refunds can only occur when the title's playtime is less than 2 hours on Steam).

that they will have relevant experience before making this decision (and may have access to trial use of items in a limited setting).⁹⁸

[37] Who, then, is worse off from loot boxes compared to the counterfactual? That would be anyone with a willingness to pay over \$60. In the prior scenario, gamers had access to the entire game for \$60. However, with a loot box model, they only have access to a portion of the game. Furthermore, the closer they get to “completing” a pay-to-play game, the more expensive it normally is. On average, the remaining items to be collected will be the rarer ones with a lower chance rate, and thus a higher expected number of loot boxes need to be opened before acquisition. Driven by the desire to complete the game and finish collecting everything,⁹⁹ gamers may spend those thousands of dollars as noted in news stories.

[38] While this spending may be problematic in conjunction with various factors (such as compulsive spending due to addiction or being misled about probabilities), there is nothing inherently problematic with marginal cost increases and benefits remaining constant in a gacha game.¹⁰⁰ Loot boxes monetization design is very much designed to put the burden of maintenance on the top group of spenders. Arguably, they have been superior at making the “1% pay their fair share” than any country’s modern tax system since an individual cannot use tax loopholes to finesse their way

⁹⁸ See John Patrick Lee, *In-Game Spending: Revolutionizing Video Game Revenues*, VETTAFI (Nov. 7, 2020), <https://www.etftrends.com/tactical-allocation-channel/in-game-spending-revolutionizing-video-game-revenues/> [perma.cc/QX48-UTT8] (explaining trial ability of limited content benefits); See Appendix “Limited Trial Setting.”

⁹⁹ See Carmen Nobel, *People Have an Irrational Need to Complete ‘Sets’ of Things*, HARV. BUS. SCH. (July 24, 2017), <https://hbswk.hbs.edu/item/people-have-an-irrational-need-to-complete-sets-of-things> [perma.cc/7WJR-GF2Q] (stating that humans want to irrationally finish collections of items).

¹⁰⁰ Evan Tarver, *Marginal Benefit v. Marginal Cost: What’s the Difference?*, INVESTOPEDIA (Aug. 9, 2023), <https://www.investopedia.com/ask/answers/051815/what-difference-between-marginal-benefit-and-marginal-cost.asp> [perma.cc/34BD-7FS7].

into buying fewer loot boxes for the best items.¹⁰¹ One could theoretically acquire items illicitly, but companies tend to crack down on these practices to ensure their bottom line.¹⁰² Whether this is fair is a normative evaluation, and whether it is healthy or rational is contextually dependent. The bottom line is that large spenders are subsidizing the smaller ones in these gacha games. Often, the benefits they accrue from spending thousands of dollars might be extremely marginal. These games also benefit many consumers by allowing price discrimination based on willingness to pay.¹⁰³ While many individuals would not be willing to pay \$60 for a game but would play it for free or a smaller price, there are others who would be willing to pay thousands or even more for the full experience.

¹⁰¹ Cf. Medora Lee, *How Do the Mega Rich Skirt \$160B in Taxes Each Year? Here Are Some Loopholes They Exploit*, USA TODAY, <https://www.usatoday.com/story/money/taxes/2023/02/21/how-do-rich-people-avoid-taxes/11308215002/> [perma.cc/E76E-LLXB] (Jan. 15, 2024, 10:54 AM) (listing common tax loopholes).

¹⁰² E.g., Kyle Orland, *Activision Shuts Down Popular Fan Servers for Legacy Call of Duty Games*, ARSTECHNICA (May 23, 2023, 12:48 PM), <https://arstechnica.com/gaming/2023/05/activision-kills-fan-clients-for-classic-call-of-duty-multiplayer-mods/> [perma.cc/8FCR-Z7WV] (stating how developers shut off unlicensed servers for games).

¹⁰³ See generally Melissa Horton, *3 Degrees of Price Discrimination*, INVESTOPEDIA (June 26, 2024), <https://www.investopedia.com/ask/answers/042415/what-are-different-types-price-discrimination-and-how-are-they-used.asp> [perma.cc/4RT8-7D6Q].

[39] Gacha games interact with two related concepts that induce spending: exclusivity¹⁰⁴ and collection.¹⁰⁵ While it may be that spending thousands of dollars to get a particular rare item might not create much gameplay benefit, it certainly could be good for showing off if that is the sole copy in the entire game. Humans are psychologically driven by completionism,¹⁰⁶ so even if one does not need a newly released item, they may pursue it solely to avoid missing it. The big spenders arguably benefit from this setup, as they want something that is hard to obtain and there are many low spenders from whom to distinguish themselves. In the game context, if one is a “whale,” they likely want many “minnows” to lord over, and minnows would probably prefer less whales and, honestly, more free premium currency from the company to reduce their distance with them.¹⁰⁷

[40] This analysis can be further extended to direct purchases of items found in loot boxes against purchasing loot boxes. There are tradeoffs between the two, and allowing fixed direct purchase of items is not inherently superior. As alluded to previously, gacha games often have pity

¹⁰⁴ See Joseph DeAcetis, *The Perfect Balance: How Luxury Brands Can Maintain Exclusivity and Still Be Relatable Online*, FORBES (Oct. 24, 2020, 9:08 PM), <https://www.forbes.com/sites/josephdeacetis/2020/10/24/the-perfect-balance-how-luxury-brands-can-maintain-exclusivity-and-still-be-relatable-online/?sh=74f216197e44> [perma.cc/4E42-968E] (explaining exclusivity in luxury brands).

¹⁰⁵ Andrew Dillon, *Collecting as Routine Human Behavior: Motivations for Identity and Control in the Material and Digital World*, 54 INFO. & CULTURE 255, 256 (2019) (explaining principles of collection).

¹⁰⁶ See Giannis Georgiou, *Fun & Grief: Completionism in Games*, GAME DEV. (July 16, 2021), <https://www.gamedeveloper.com/design/fun-grief-completionism-in-games> [perma.cc/UT3R-5NRS] (highlighting completionism in video games).

¹⁰⁷ Cf. Taylor Orth, *Most Americans Support Raising Taxes on Billionaires*, YOU GOV (Oct. 4, 2022, 3:51 PM), <https://today.yougov.com/politics/articles/43956-most-americans-support-raising-taxes-billionaires> [perma.cc/6KWR-KYMK] (stating most people support more taxes on the wealthy).

mechanisms¹⁰⁸ for items that serves as a spending cap, and this pity is usually higher than the expected number of loot boxes to acquire an item.¹⁰⁹ While the pity serve to prevent extreme cases of bad luck, the rate of loot boxes individually in this system are often lower than those without a pity mechanic. Pity increases the consolidated rate of rare items in a loot box, so consequently, the game company would likely adjust the consolidated rate to not exceed the prior uncapped rate. As such, having a pity guarantee is a tradeoff between fewer cases of good luck to offset possible bad luck.

[41] In this vein, directly purchasing items eliminates all possible cases of good or bad luck from loot boxes, serving as a certainty equivalent of purchasing loot boxes.¹¹⁰ However, this price is unlikely to be the expected value of that item in a loot box, as most people are risk averse,¹¹¹ and thus, their certainty equivalent will be a higher price than the cost of opening the expected number of loot boxes. Going by the law of large numbers,¹¹² in the long run, it becomes increasingly likely that the gamer is worse off from direct purchases in comparison to loot boxes when considering total acquisition of items. Not to mention, direct purchases are an all-or-nothing entity; the gamer receives no utility until the purchase. On the other hand, the gamer will still receive an item before acquiring their desired one when

¹⁰⁸ Mgdrg, *supra* note 84.

¹⁰⁹ See Appendix “Loot Box Details” (for example, the 1.6% consolidated rates corresponds to a five star item every 62.5 loot boxes on average, lower than the 90 loot box pity).

¹¹⁰ *Certainty Equivalent*, WALLSTREETMOJO (July 13, 2023), <https://www.wallstreetmojo.com/certainty-equivalent/> [perma.cc/CUT7-4EZU].

¹¹¹ See Joyce Blay, *Most Americans Are Risk Averse, Survey Finds*, FIN. ADVISOR (Dec. 23, 2019), <https://www.fa-mag.com/news/most-americans-are-risk-averse--northwestern-mutual-survey-says-53358.html> [perma.cc/Q6RK-83NR].

¹¹² Richard Routledge, *Law of Large Numbers*, BRITANNICA, <https://www.britannica.com/science/law-of-large-numbers> [perma.cc/DBR6-RCQS] (Nov. 4, 2024) (defining the law of large numbers).

opening loot boxes. While it is often argued that these items are essentially worthless, that is not always the case. These items are important when the player is first starting a game, as it is unlikely they will receive duplicates of items. Loot boxes may represent economic bundling,¹¹³ which results in lower prices holistically with the additional benefit of piecewise receipt of bundle items before paying full price.

[42] While the previous discussions have focused primarily on the benefits of loot box to gamers, they also provide benefits to game companies.¹¹⁴ With game development becoming increasingly expensive,¹¹⁵ companies not only have to contend with budget constraints for developing all aspects of the game but also face higher losses in the case of poor performance. While gacha games are not necessarily inexpensive to develop compared to traditional-single purchase games,¹¹⁶ they require a lower commitment. Gacha games are essentially incomplete games with content added over time to make them more complete. As such, their initial development has a lower resource requirement than completing a whole game. This development strategy could allow for higher quality in the long run by spending the same amount of resources to develop a portion rather than an entire game within a budget. Furthermore, gacha games encourage long-term play. Not only is a sufficiently long timeframe is required for loot

¹¹³ See Daniel Liberto, *Bundling: Definition as Marketing Strategy and Example*, INVESTOPEDIA, <https://www.investopedia.com/terms/b/bundling.asp> [perma.cc/5ZKD-8TK3] (June 7, 2024).

¹¹⁴ See Appendix “Single Purchase vs. Free-to-play Gacha.”

¹¹⁵ See Tom Bowen, *The 18 Most Expensive Games Ever Made (& How Much It Cost to Make Them)*, GAME RANT, <https://gamerant.com/most-expensive-games-ever-made-total-cost/> [perma.cc/JP2X-KDMM] (Nov. 28, 2024).

¹¹⁶ E.g., Ethan Anderson, *Genshin Impact Cost of Development Is (Almost) the Most Expensive Ever*, PCGAMES^N (Aug. 10, 2022), <https://www.pcgamesn.com/genshin-impact/cost-most-expensive> [perma.cc/6RTQ-LBEU] (detailing cost of developing a gacha game may exceed \$100 million).

box outcomes to match expected rates on average,¹¹⁷ but also because players are often left with excess currency to purchase loot boxes after each opening session. Due to their benefits, it is no surprise that the loot-box-method of monetization is increasingly common for game development.¹¹⁸

[43] BCA for regulation should consider both the benefits and costs of changes with respect to the current state. This section illustrates that loot box monetization holds merits for both the game companies as well as the majority of gamers. These merits are often overlooked or unconsidered when discussing the harms loot boxes can possibly cause and methods of regulation. The converse is also true, however. This paper provides myriad reasons why loot boxes are beneficial, but that does not preclude them from having harmful effects even if they are a net benefit. Harms may be severable or addressed with a lower associated loss of benefits. Just as benefits may not be obvious or considered at first glance, these harms may be insidious and passed over when addressing more traditional issues. Even a gacha game that appears “fair” at first glance with fully published rates and a pity mechanism can be rife with issues when taken apart, as will be addressed in the following sections.

¹¹⁷ See Akhilesh Ganti, *Central Limit Theorem (CLT): Definition and Key Characteristics*, INVESTOPEDIA, https://www.investopedia.com/terms/c/central_limit_theorem.asp [perma.cc/D94L-AZPC] (Oct. 8, 2024) (explaining the central limit theorem on normalization of mean with large sample sizes).

¹¹⁸ Forde, *supra* note 4, at 4.

III. AVENUES FOR HARM AND REGULATORY CHALLENGES

A. The Unseen Harm is The Deadliest

[44] Let us return to the very basic premise defining loot boxes mentioned earlier: 1) a container with items 2) for which at least a portion is random and unknown 3) that are drawn from a set list of items. Each component is possibly problematic, though there is unlikely to be controversy with the first element. The principal concern with loot boxes is what they contain, not whether they contain something at all. Of course, a loot box could be designed to dispense nothing at all, in which case the arguments for economic injury and gambling are greater. Knowing this may make them susceptible to liability, game companies would likely include, at minimum, a bare pittance in each loot box.

[45] This segways to the second prong of the loot box description. Assuming the loot box cannot dispense absolutely nothing, an individual is guaranteed a bare minimum. So, a user will always receive a baseline item of value, even if it might not be what they are looking for, unless that particular item is functionally useless in the game contextually.¹¹⁹ In the worst-case scenario, the item may be entirely devoid of use to the player or even detrimental, though it is unlikely to be that extreme. This notion of value is heavily dependent on gamers' subjective beliefs.¹²⁰ It is doubtful that an item holds no purpose in the game at all, but it could be the case that individual users derive no benefit from it in any shape or form.

¹¹⁹ E.g., Connor Smith, *The 10 Most Intentionally Useless Items in Video Games*, THEGAMER (Dec. 17, 2019), <https://www.thegamer.com/video-games-intentionally-useless-items-most/> [perma.cc/N6SV-JZCV] (providing examples of functionally useless items); see Appendix "Functionally Useless Loot Box Items."

¹²⁰ See Clive Thompson, *Why Video Games Get 'Old' So Quickly*, MEDIUM (Aug. 21, 2021), <https://onezero.medium.com/why-video-games-get-old-so-quickly-4e1af6ea6719> [perma.cc/E34D-BL9U] (explaining planned obsolescence in video games).

[46] For further complication, the loot box could give the player a guaranteed item with every purchase.¹²¹ A company could always bundle every loot box with the equivalent of a cent of in-game items. Specifically, items that will also never be functionally useless, thus resulting in the loot box always providing something of value. Of course, one cent may not meet the necessary *de minimis* threshold,¹²² and the valuation of this guaranteed item as an asset may be difficult, especially with regard to whether it is worth more or less than the monetary expenditure for the loot box.

[47] Moving onto the third aspect, one consideration would be whether the probability distribution is disclosed. As mentioned previously, this is less of a pertinent issue contemporarily as both the primary mobile app distribution stores, Google¹²³ and Apple,¹²⁴ require rate disclosure on loot boxes. Granted, this does not mean all games with loot boxes now disclose rates, as there is not necessarily perfect compliance.¹²⁵ Additionally, not all games with loot boxes are necessarily only distributed on mobile app stores. Another consideration is that China, one of the leading countries for gacha

¹²¹ See Appendix “Guaranteed Loot Box Items.”

¹²² *De Minimis*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/de_minimis [perma.cc/LY5T-TSQT] (last updated Jan. 2022).

¹²³ Nicholas A. Plassaras, *Google Play Now Requires Disclosure of Loot Box Odds*, LEXOLOGY (May 30, 2019), <https://www.lexology.com/library/detail.aspx?g=4f371255-9096-4b3e-b975-cbfa5fa1a7ac> [perma.cc/87RQ-TFUP].

¹²⁴ Chaim Gartenberg, *Apple Now Requires Games with Loot Boxes to Disclose Odds*, VERGE (Dec. 21, 2017, 11:05 AM), <https://www.theverge.com/2017/12/21/16805674/apple-loot-box-app-store-games-odds-probability-disclosure> [perma.cc/44K5-W4S7].

¹²⁵ Leon Y. Xiao et al., *What Are the Odds? Lower Compliance with Western Loot Box Probability Disclosure Industry Self-Regulation Than Chinese Legal Regulation*, SSRN (Sept. 30, 2021), <http://dx.doi.org/10.2139/ssrn.3934941> [perma.cc/77AD-5JLX] (this cited paper is a “working paper covering possible lack of compliance to existing regulation”).

game development, mandates rate disclosures by law (though not with perfect compliance either).¹²⁶ Consumer sentiment for visible rates has also made this issue less prevalent with time. A lack of rate disclosures could open a developer up to fraudulent misrepresentation¹²⁷ or false advertising¹²⁸ accusations, giving them an incentive to provide at least a bare minimum amount of transparency.

[48] However, the rates displayed by a game may not actually be the true rates and mechanisms. As mentioned previously, games may often incorporate a “pity”¹²⁹ or “guarantee” mechanism to ensure eventual receipt of a desired item. This mechanism assures the user that they will always have a baseline worst-case scenario, putting a price ceiling¹³⁰ on the monetary expenditure. The pity system is not as direct as it first appears, though. A gacha game may have different guarantees for specific items and for a certain tier of item rarity, or it may only have one or the other.¹³¹ There

¹²⁶ Leon Y. Xiao, *Drafting Video Game Loot Box Regulation for Dummies: A Chinese Lesson*, 31 INFO. & COMMS. TECH. L. 343, 344 (2022).

¹²⁷ *Fraudulent Misrepresentation*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/fraudulent_misrepresentation [perma.cc/6XBF-BVNZ] (last updated Jan. 2023).

¹²⁸ *False Advertising*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/false_advertising [perma.cc/U2W3-WTBW] (last updated Jan. 2023).

¹²⁹ Mgdrg, *supra* note 84.

¹³⁰ Troy Segal, *Price Ceiling: Effects, Types, and Implementation in Economics*, INVESTOPEDIA, <https://www.investopedia.com/terms/p/price-ceiling.asp> [perma.cc/3LKW-3P3V] (Aug. 8, 2024).

¹³¹ See Mofeeza Masood, *Gacha Games with the Best and Worst Mercy System 2023*, GAMEREVOLUTION (Nov. 28, 2023), <https://www.gamerevolution.com/guides/957293-gacha-games-best-worst-pity-systems-2023-mercy-luck-mitigation> [perma.cc/H4Q5-3KPR]; See Appendix “Convolutd Pity System.”

also may not be guarantees for every specific item available in the loot box, such as for lower-rarity items, which some users may desire.¹³²

[49] Furthermore, the stated given-rate mechanism in a particular game may not be the true mechanism.¹³³ For example, if a game displays a 1% rate for an item, it may be true that a player receives that item once every 100 loot boxes on average. However, each loot box may not necessarily have an independent and identically distributed¹³⁴ 1% chance of containing that item. The probability distribution for a loot box may be dynamic.¹³⁵ This is true for any games that contain a pity mechanism. When opening the loot box at the pity number, the gamer has a 100% guaranteed chance of receiving a specific item. At that point, there is no chance aspect. It need not be so drastic, however. The game may have a system where rates dynamically alter depending on whether the player is experiencing above or below the intended rate for items.¹³⁶ Such a dynamic rate system would result in more accurate (and equitable) individual outcomes for players in the short and long run. Even so, any adjustment may not be communicated to the players (or the system communicated at all), even if it is enabled to ensure the rates are correct.

¹³² See Appendix “Convoluting Pity System.”

¹³³ See Appendix “Undisclosed Mechanism.”

¹³⁴ Chetna Khanna, *Independent and Identically Distributed*, MEDIUM (Jan. 17, 2021), <https://towardsdatascience.com/independent-and-identically-distributed-ce250ad1bfa8> [perma.cc/4L6T-QBC5].

¹³⁵ E.g., Alissa McAloon, *Dota 2 Now Dynamically Discloses Loot Box Odds In-Game*, GAME DEV. (Oct. 17, 2018), <https://www.gamedeveloper.com/game-platforms/-i-dota-2-i-now-dynamically-discloses-loot-box-odds-in-game> [perma.cc/9M6V-3TPZ] (explaining dynamically viewable odds in game).

¹³⁶ E.g., *Learn How Summoning Works*, FIRE EMBLEM HEROES, <https://new-guide.fire-emblem-heroes.com/en-US/feh-2020.html> [perma.cc/B5TX-TLVK] (last accessed Jan. 13, 2024) (demonstrating a dynamic adjusting rate system).

[50] As such, even if a game company were to publish a specific list of rates and mechanisms, a player would have no assurance their specific game, at that instance, operates with those rates and mechanisms. There is always random variation for outcomes in the short run, even with guaranteed items. More conclusive evidence of noncompliance would require evaluating outcomes over a much longer time span (or much larger expenditure amount). Even then, anomalies can still exist. While some companies may preserve the record of obtained items from loot boxes,¹³⁷ this is not guaranteed to be the case. Thus, a user seeking to bring a suit against a game developer may have difficulty collecting evidence unless they preemptively obtain records of their transactions in anticipation of future noncompliance.¹³⁸ There is evidence that publishers alter rates¹³⁹ to not match published rates, so this is a realistic harm that has a high difficulty of detection.

[51] Furthermore, even if a user were to suffer harm from these deceptive practices, they may not have proper redress. Lawsuits can become relatively expensive,¹⁴⁰ especially in comparison to the magnitude of harm arising from loot boxes not behaving as intended. While one could be a particularly high spender, unless the gamer's experienced rate differs egregiously from

¹³⁷ See Alissa McAloon, *Online Games Will Be Required to Disclose Random Loot Box Odds in China*, GAME DEV. (Dec. 7, 2016), <https://www.gamedeveloper.com/game-platforms/online-games-will-be-required-to-disclose-random-loot-box-odds-in-china> [perma.cc/UQY9-MBKV].

¹³⁸ See Appendix "Loot Box Opening History"; see generally Appendix.

¹³⁹ *Inside the Game*, *supra* note 52, at 191–92 (displaying statement from industry that companies can alter rates).

¹⁴⁰ *How Much Does It Cost to Sue Someone*, HIGH RISE FIN., <https://www.highriselegalfunding.com/faqs/how-much-does-it-cost-to-sue-someone/> [perma.cc/7Y5P-4RTK] (describing typical lawsuit cost).

the published rate, the degree of harm¹⁴¹ to the consumer is unlikely to be substantial.

[52] The total harm suffered by the population may be substantial, but harm to individual users would be minor enough to discourage seeking remedy. Though victims could attempt a class action¹⁴² or seek punitive damages, there are difficulties with both of those avenues. The prior requires a sufficiently high enough user population that has suffered sufficient harm, which, outside of the largest games, would be difficult to prove. This scenario does not even include the difficulty of proving fraud claims in class actions.¹⁴³ The latter is neither common nor reliable¹⁴⁴ and results in high-cost risks with no benefits to the litigant.

[53] Furthermore, a game can nevertheless manipulate player behavior, even without changing the expected value of items within loot boxes.. Player behavior is likely path-dependent,¹⁴⁵ meaning decision-making for buying and opening more loot boxes is affected by past outcomes rather than occurring in a vacuum. Humans are not always rational and may find

¹⁴¹ Measured by the difference in value of expected items received versus the actual items received or the difference in expected expenditure to receive particular items versus actual expenditure. Both of which may produce calculation difficulties.

¹⁴² *Class Action*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/class_action [perma.cc/E873-RV3Z] (last updated Apr. 2023).

¹⁴³ *Castano v. Am. Tobacco Co.*, 84 F.3d 734, 744 (5th Cir. 1996).

¹⁴⁴ Daniel Liberto, *What Are Punitive Damages? Purpose, Cap, Calculation, and Example*, INVESTOPEDIA, <https://www.investopedia.com/terms/p/punitive-damages.asp> [perma.cc/FX8F-J37Z] (Apr. 30, 2024).

¹⁴⁵ *Path-Dependence*, SCIENCE DIRECT (2017), <https://www.sciencedirect.com/topics/social-sciences/path-dependence> [perma.cc/BSK5-45DQ].

patterns where they do not exist.¹⁴⁶ As such, the way they receive items from loot boxes may be just as important in their decision-making as what they receive. It is not a stretch to believe that companies could use artificial intelligence to tailor loot box outcomes for specific players to maximize their spending. After all, companies already utilize different technologies to maximize their users' expenditures¹⁴⁷ by using personalized data they can collect from users.

[54] While companies may be able to encourage players to continue playing their game (and spending money), they can, conversely, manipulate players to discourage a subset from playing. While this may seem counterintuitive, there are many possible groups of users that companies may wish to constrain due to their external effects. One easily identifiable group may be those causing negative externalities to others, often referred to as "toxic" gamers.¹⁴⁸ Discouraging toxic gamers from playing does not appear to be the case in practice though, as negative experiences appear to be increasing over time.¹⁴⁹ Perhaps companies believe this group to be more passionate about the game and spend more money. That makes them seem beneficial, even though there is robust evidence that the negative

¹⁴⁶ See Cathy Lovering, *All About Apophenia*, PSYCHCENTRAL (Dec. 8, 2021), <https://psychcentral.com/health/apophenia-overview> [perma.cc/E6CZ-CLG6] (explaining the human tendency to see patterns).

¹⁴⁷ See Daniel L. King et al., *Unfair Play? Video Games as Exploitative Monetized Services: An Examination of Game Patents from a Consumer Protection Perspective*, 101 COMPUTS. HUM. BEHAV. 131, 131–43 (2019) (saying game systems exploit behavioral tracking data).

¹⁴⁸ *Toxicity, Hate and Harassment in Gaming*, INTENTADIGITAL, <https://intenta.digital/gaming/toxicity-hate-and-harassment-in-gaming/> [perma.cc/84PJ-A88T].

¹⁴⁹ See *id.*

externalities they cause decrease social welfare.¹⁵⁰ More insidious is that companies may target those who criticize their actions.¹⁵¹ After all, this already happens openly with game companies directly banning accounts,¹⁵² but this could invite backlash. Conversely, if a company sees criticism from a user on their community website, they can target their linked game account discreetly. And if there is identifying information present linking it to a specific game account, game companies can even ban critics on external social media. Individuals exhibit heightened risk aversion after bad luck,¹⁵³ and the company manipulating their individual rates to produce largely negative results consistently may discourage them from further play.

[55] It should be evident that possible harms can arise in loot boxes independently from the degree of chance involved and the level of information available to gamers. Rather than attempting to fit loot boxes into a certain regulatory classification scheme, it would be much more prudent to evaluate the mechanisms for which they can possibly cause injury. Then, consider the approaches to rectifying them, as well as the impacts on the benefits they currently confer. This approach requires consideration of the role of loot boxes in games and their surrounding environments, which will be discussed in the following section.

¹⁵⁰ See Siva Raghava, *Changing the Game: The Effects of Toxicity on Player Behavior*, TASKUS (Dec. 15, 2023), <https://www.taskus.com/insights/changing-the-game-the-effects-of-toxicity-on-player-behavior/> [perma.cc/9CLR-3JU4] (stating people less willing to spend when players toxic).

¹⁵¹ See Appendix “Example of Direct Company Intervention Targeting Specific User.”

¹⁵² See Daniel DeAngelo, *Total War Devs Ban Steam Forum Boycotts*, GAME RANT (Oct. 31, 2023), <https://gamerant.com/total-war-steam-forum-bans-boycotts-review-bomb/> [perma.cc/8UFA-LCPF] (showing video game companies banning people criticizing their game).

¹⁵³ See Richard H. Thaler & Eric J. Johnson, *Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice*, 36 MGMT. SCI. 643, 656–657 (1990) (exploring risk aversion from bad luck).

B. What is a Loot Box Without Its Game?

[56] To address loot boxes without their contextual operation would fail to address the motivations and rationale behind a gamer's purchase decisions. After all, without the game and environment, gamers have little reason to purchase loot boxes compared to easier and less expensive alternatives for experiencing (pseudo) random chance. While one reason people may go to a casino and gamble is monetary,¹⁵⁴ this same motivation is unlikely for purchasing loot boxes. Player motivation is not driven by monetary considerations particularly if player-to-player transactions are unavailable in the game ecosystem and the market for sale is only for entire accounts.¹⁵⁵

[57] While gacha games are wide and varied, they often share many similarities that work together to induce expenditure by gamers into loot boxes. One similarity would be the game progression system. While it may appear that the typical progression system is simply a game design choice initially, in reality, the setup of content distribution is designed to encourage spending.¹⁵⁶ These gacha games often begin front-loaded with content, which rewards the player with premium currency used to purchase loot boxes. This is similar to how online sports betting websites offer free prop

¹⁵⁴ See *What Motivates People to Gamble*, GAMBLING COMM'N (May 25, 2021), <https://www.gamblingcommission.gov.uk/blog/post/what-motivates-people-to-gamble> [perma.cc/4DPX-RBR7].

¹⁵⁵ See Thomas Wilde, *Amazon's 'New World' Online Game Bans Nearly 8,000 Accounts for 'Botting'*, GEEKWIRE (Dec. 2, 2021, 10:58 AM), <https://www.geekwire.com/2021/amazons-new-world-online-game-bans-nearly-8000-accounts-for-botting/> [perma.cc/U2AZ-WWDN] (providing risks of buying third party accounts); Appendix "Prohibition of Exchange".

¹⁵⁶ See Amspaugh, *supra* note 3.

bets when first using their site,¹⁵⁷ except this currency is not as restrictive. This fixed initial amount is often higher than the variable amount players earn over time.¹⁵⁸ After clearing through this initial content, the player will likely feel a level of investment has already occurred on their game account.

[58] After this, the player will enter what the author refers to as the “gameplay loop.” This gameplay loop involves a cycle of activities the player performs in the game that builds habits. It often consists of four cyclical phases 1) clearing repetitive activities, 2) acquiring premium currency, 3) participating in newly released and limited time content, and 4) opening (possibly buying) loot boxes for the restricted items in the new content. The player is normally encouraged to play the game daily or even more often by limiting free premium currency behind daily tasks, which do not carry over, or energy systems,¹⁵⁹ which are time-gated and expensive to replenish directly with money. The longer the player continues playing, the more likely they are to form a habit of playing daily¹⁶⁰ and the more attachment they have to their account. Furthermore, many games offer a monthly subscription-esque item for purchase, normally having the highest monetary efficiency¹⁶¹ for premium currency and other benefits. To further

¹⁵⁷ E.g., Michael Duchesne, *Best Sportsbook Promos: Get \$5,900 in Bonuses*, COVERS, <https://www.covers.com/betting/bonuses> [perma.cc/6W35-6SDK] (providing examples of prop bets).

¹⁵⁸ See Appendix “Frontloaded Premium Currency.”

¹⁵⁹ Ed Biden, *Understanding Energy Systems*, MOBILEFREETOPLAY, <https://mobilefreetoplay.com/understanding-and-eliminating-energy-systems/> [perma.cc/5DEV-NJ5Z].

¹⁶⁰ Benjamin Gardner et al., *Making Health Habitual: The Psychology of 'Habit-Formation' and General Practice*, 62 BRIT. J. GEN. PRAC. 664, 664 (2012) (detailing habit formation).

¹⁶¹ See Austin Wood, *What 100 Days and \$60 Got Me in Genshin Impact*, GAMESRADAR (Jan. 14, 2021), <https://www.gamesradar.com/what-100-days-and-dollar60-got-me-in-genshin-impact/> [perma.cc/A48P-N89H] (describing the most efficient purchase of premium currency).

incentivize continued habit formation, this monetary efficiency requires the daily play from the player, though.¹⁶²

[59] Gacha games will then encourage players to spend money, including through “power creep”¹⁶³ and “flavor of the month.”¹⁶⁴ These are not universally present but will work together to encourage spending. Power creep refers to when a newly released item is superior to a previous one, the new item superseding the old and making it completely obsolete.¹⁶⁵ The degree may vary, but the newly released item is often designed to make things easier in some fashion than what is currently available. This item may also only be available for a limited amount of time—the flavor of the month.¹⁶⁶ While a gamer might have a rough estimate of the average freely available premium currency, as well as the expected number of rare items from loot boxes in the long run, this is not the case in the short run.¹⁶⁷ Even if the loot box has a pity, a player may not have the requisite premium currency available on hand to reach it. Assuming random chance cuts against them, their only option to acquire the item before it is unavailable would be to spend money. This need to spend money may be further exacerbated if the item will never be available again, or if the pity

¹⁶² See Appendix “Monthly Subscription.”

¹⁶³ August Nelson, *Nelson: How to Cope with Power Creep in Trading Card Games*, DAILY NEBRASKAN (Nov. 15, 2022), https://www.dailynebraskan.com/culture/nelson-how-to-cope-with-power-creep-in-trading-card-games/article_b66418f4-6484-11ed-ac4d-d7bc5d71a583.html [perma.cc/3AE9-94SV].

¹⁶⁴ Candace Osmond, *Flavor of the Month – Meaning and Origin*, GRAMMARIST, <https://grammarist.com/idiom/flavor-of-the-month/> [perma.cc/KV9Z-KDZ2] (last accessed Jan. 13, 2024).

¹⁶⁵ Nelson, *supra* note 163.

¹⁶⁶ See Osmond, *supra* note 164.

¹⁶⁷ *Character Event Wishes*, GENSHIN IMPACT WIKI, https://genshin-impact.fandom.com/wiki/Wish#Character_Event_Wishes [perma.cc/5YEG-L29X].

mechanism does not carry over between different loot box cycles. The “fear of missing out¹⁶⁸” and “sunk cost fallacy¹⁶⁹” may result in the user paying to purchase loot boxes until they acquire the item.

[60] Gaining the free premium currency used to purchase loot boxes also serves the purpose of leaving a remainder on a player’s account, creating a feeling of waste during the player’s discontinuation of use. This feeling of waste is further amplified when the gamer pays for any remaining premium currency, a near certainty if they make any purchase. Often, premium currency has a less expensive unit price when purchased in bulk.¹⁷⁰ While a user could minimize overspending by buying the lowest denominator available, they have better monetary efficiency if all their purchases are in bulk of the largest amount. Purchasing premium currency in bulk is not a problem if the player intends to play long-term, but this spending could induce further play even when users do not gain sufficient utility from doing so.

[61] Accumulation of free premium currency is also often a long and tedious task. Players might receive relatively high amount of premium currency over time in a game, but in the short run their impatience may lead

¹⁶⁸ Emily Laurence, *The Psychology Behind the Fear of Missing Out (FOMO)*, FORBES, <https://www.forbes.com/health/mind/the-psychology-behind-fomo/> [perma.cc/U4MR-XMTW] (Sept. 20, 2023, 8:07 AM).

¹⁶⁹ Dan Pilat & Sekoul Krastev, *Why Are We Likely to Continue with an Investment Even If It Would Be Rational to Give It Up?*, DECISION LAB, <https://thedecisionlab.com/biases/the-sunk-cost-fallacy> [perma.cc/3FF2-VVXG] (last accessed Jan. 13, 2024).

¹⁷⁰ See Javier Barnes, *How to Price Items in Free-to-Play Games*, MEDIUM (Aug. 2, 2021), <https://medium.com/ironsource-levelup/how-to-price-items-in-free-to-play-games-c200648ab8b9> [perma.cc/48JK-25AM].

to purchasing more.¹⁷¹ Furthermore, users may also be able to acquire loot box items without cost in a different manner.¹⁷² Acquiring loot boxes without cost is often tied to the aforementioned energy systems, and this alternative acquisition method may have elements of chance as well.¹⁷³ Regardless, they generally tend to require long-term consistent play as well, and similarly serve as a comparator for individuals to spend money.¹⁷⁴ If in order to receive an item a player is told they must exercise potentially months of self-restraint, they may cave quickly to impulse and spend to obtain the item.¹⁷⁵

[62] Together, this keeps the gamer invested and continually playing, gradually accumulating content and progress on their account, making them less likely to abandon it due to loss aversion.¹⁷⁶ The game ecosystem is designed to keep the user invested and encourage spending, and while loot boxes may help propagate this, they are not inherently necessary. For example, a game could have fixed prices on items. Then have surprise

¹⁷¹ See GGI Insights, *Impulse Buying: Understanding and Controlling Spontaneous Shopping*, GRAY GROUP INT'L, <https://www.graygroupintl.com/blog/impulse-buying> [perma.cc/4ED2-LZPP] (Oct. 1, 2024).

¹⁷² E.g., Erin O’Gorman, *10 Gacha Games with Mechanics That Make Them Enjoyable Without Spending a Coin*, THEGAMER (May 9, 2021), <https://www.thegamer.com/gacha-games-fun-free> [perma.cc/GP9K-XEM9] (showcasing alternative acquisition methods in gacha games).

¹⁷³ *Id.*

¹⁷⁴ *Original Resin*, GENSHIN IMPACT WIKI, https://genshin-impact.fandom.com/wiki/Original_Resin#Replenishing_Resin [perma.cc/3SBJ-TH47].

¹⁷⁵ See Angel E. Navidad, *Stanford Marshmallow Test Experiment*, SIMPLYPSYCHOLOGY, <https://www.simplypsychology.org/marshmallow-test.html> [perma.cc/UWH2-V7YP] (Sept. 7, 2023).

¹⁷⁶ See Dan Pilat & Sekoul Krastev, *Why Do We Buy Insurance?*, DECISION LAB, <https://thedeisionlab.com/biases/loss-aversion> [perma.cc/QL2S-SCBP] (last accessed Jan. 13, 2024).

discounts on them, random bonus amounts added to premium currency purchases, and randomized free premium currency acquisition daily, all moving the chance aspect around. Nevertheless, players may still get addicted to the same base game. Ironically, the ability to cash out items in an account may weigh heavily towards loot boxes being gambling but can also be beneficial for users to exit this habit formation cycle. However, the endowment effect¹⁷⁷ may cause them to overprice their items and make disposal difficult without a robust market present.

[63] Even the game does not simply exist in a vacuum. While the game may inherently attempt to induce an increased valuation of certain items, individuals' perceptions and beliefs are often influenced by those around them.¹⁷⁸ A very straightforward case exists in gacha games where there is human competition. This influence may occur directly, such as when players face off in player-versus-player conflicts. When unsuccessful in these encounters, players are likely to attribute this to external factors rather than their inherent shortcomings due to self-serving bias.¹⁷⁹ One area they may conflate their loss with could be an opponent's perceived superior items, items that can only be acquired in a loot box. After all, the technology to intentionally match gamers against opponents they are likely to lose to

¹⁷⁷ See Dan Pilat & Sekoul Krastev, *Why Do We Value Items More If They Belong to Us?*, DECISION LAB, <https://thedeisionlab.com/biases/endowment-effect> [perma.cc/S45J-DZYG] (last accessed Jan. 13, 2024).

¹⁷⁸ See Krishnan Gopinath & Gopalakrishnan Narayanamurthy, *Early Bird Catches the Worm! Meta-Analysis of Autonomous Vehicles Adoption – Moderating Role of Automation Level, Ownership and Culture*, SCIENCE DIRECT (2022), <https://www.sciencedirect.com/science/article/pii/S0268401222000706> [perma.cc/6UMG-BS29] (explaining how beliefs are dependent on social circles).

¹⁷⁹ See Dan Pilat & Sekoul Krastev, *Why Do We Blame External Factors for Our Own Mistakes?*, DECISION LAB, <https://thedeisionlab.com/biases/self-serving-bias> [perma.cc/AZX4-MZ2X] (last accessed Jan. 13, 2024).

who also have items they might desire already exists.¹⁸⁰ This may be even more prevalent in situations of indirect human competition, such as leaderboards for in-game activities. By purposely limiting users to simply viewing the profiles of these top players (and prominently displaying any rare items acquired from loot boxes on them), games can further obfuscate the connection between spending and performance by removing the avenue to directly observe player skill.¹⁸¹

[64] However, even when there is no competition or challenge in a game, individuals may still choose to spend large quantities of money. While some may derive the requisite utility from doing so, many are likely doing so from the influence of the surrounding community in a game. Often, game companies will provide an official site for their online community to gather, but even if they do not, gamers may take to traditional social media to share their sentiments and results. These posts are unrepresentative of their typical experience¹⁸² and normally fall into one extremity or another. Influenced by these trends, players may feel the need to acquire new content or share their experiences opening loot boxes to fit in.

[65] Additionally, individuals, such as video game content creators, particularly those streaming a particular gacha game or making videos for it, produce content promoting large expenditures in these gacha games outside of traditional advertising channels. Many individuals, particularly

¹⁸⁰ See James Davenport, *Activision Wins Patent That Uses Matchmaking to Make You Want to Buy Stuff*, PC GAMER (Oct. 17, 2017), <https://www.pcgamer.com/activision-wins-patent-that-uses-matchmaking-to-make-you-want-to-buy-stuff/> [perma.cc/VE8A-BU2G] (explaining a matchmaking system against opponents who are likely to win and have items you want).

¹⁸¹ See Appendix “Challenging In-game Content.”

¹⁸² Arvind Otta et al., *The Reality of Fake Happiness on Social Media*, 4 PSYCHOLOGS 33 (2023) (discussing the unrepresentativeness of social media).

those under the age of 18,¹⁸³ are consuming this content. While having broad coverage, the content will often contain loot box openings, sometimes with the creator spending a large amount of money to open a large number of them. This behavior may be passed onto the audience, who imitate them in making these substantial expenditures. This may be particularly effective on younger consumers, with other countries restricting their access to this content out of concern.¹⁸⁴

[66] This content requires additional scrutiny as it often misrepresents the game to consumers due to the unclear relationship between the creator and the company behind the game. Putting aside the fact that these creators will make inaccurate, untrue, and misleading statements in their content,¹⁸⁵ the product they are advertising may not even be the same game for the average user. This content can vary from something as complicated as the company giving them access to a specialized server for content creation or as simple as altering the rates for that creator to be higher than the average player's experience to induce a false representation.¹⁸⁶ Further complicating content reliability, the company can perform actions including the rate alteration without the knowledge (and consent) of the creator, causing them

¹⁸³ See Rebekah Valentine, *78% of Gaming Preteens Also Watch Online Gaming Videos*, GAMESINDUSTRY.BIZ (Oct. 30, 2019), <https://www.gamesindustry.biz/78-percent-of-gaming-preteens-also-watch-online-gaming-videos> [perma.cc/R6R2-LM8B]; see also OFCOM, CHILDREN AND PARENTS: MEDIA USE AND ATTITUDES REPORT 2022 (2022), https://www.ofcom.org.uk/__data/assets/pdf_file/0024/234609/childrens-media-use-and-attitudes-report-2022.pdf [perma.cc/8QCX-2JMC] (disclosing the watch rate of streamers).

¹⁸⁴ See Vaspan Dastoor, *China Now Bans Minors from Watching Streams After 10 PM*, THEGAMER (May 9, 2022), <https://www.thegamer.com/china-ban-minors-live-streams-10-pm/> [perma.cc/75ZJ-7RDN] (reporting how China restricts the watching of streamers).

¹⁸⁵ These are statements that they do not have citations for; however, the audience is unlikely to care to check them anyways.

¹⁸⁶ *Inside the Game*, *supra* note 52.

to inadvertently help promote monetary expenditure on loot boxes without knowing.¹⁸⁷

[67] While platforms may require certain disclosures for particular sponsorships,¹⁸⁸ this coverage is not all-inclusive, and game companies can sidestep this. For instance, the game company could provide the creator with assistance that is not financial, such as providing insider information, promoting their content, or supplying gameplay benefits. Companies often have broad-ranging creator programs with these benefits¹⁸⁹ that indirectly provide financial assistance without any heightened disclosure requirements. One method is by providing premium currency to purchase loot boxes or just free loot boxes. The Terms of Service (ToS) in many games often stipulates that the in-game currency holds no monetary value¹⁹⁰ to frame this as a non-financial transaction. Even though this disbursement is offsetting a monetary expenditure, the creator would have to make it otherwise. Whether directly supported by a game company or indirectly because further proliferation of the game will increase traffic to their content, creators are incentivized to promote these games and encourage spending.

¹⁸⁷ See Appendix “Company Influence on Third Party Content.”

¹⁸⁸ See *Branded Content Guidelines*, TWITCH, https://help.twitch.tv/s/article/branded-content-policy?language=en_US [perma.cc/SQF3-82N8] (last accessed Jan. 13, 2024); see also *Add Paid Product Placements, Sponsorships & Endorsements*, YOUTUBE HELP, <https://support.google.com/youtube/answer/154235?hl=en> [perma.cc/H4KJ-KT45] (last accessed Jan. 13, 2024) (explaining sponsorship disclosure requirements for platforms).

¹⁸⁹ E.g., *Content Creator Program for You*, MY.GAMES, <https://creators.my.games> [perma.cc/93XJ-8837] (last accessed Jan. 13, 2024) (showing an example of creator program with more than financial support).

¹⁹⁰ E.g., *End User License Agreement*, WARFRAME, <https://www.warframe.com/EULA> [perma.cc/2VUQ-FLCE] (July 6, 2023) (showing an example of game currency having no value in ToS).

[68] Fundamentally, the harm caused by loot boxes can be grouped into two main areas. One would be addiction and overconsumption of loot boxes (with special consideration towards minors and other vulnerable populations) that result in excessive monetary expenditure above the amount under rational circumstances (ease of access issues). The other would be the losses from receipt of value lower than stipulated in a transaction and the difficulty of detecting and recovering injury (official sourcing issues). As such, any regulation or other legal intervention should focus on targeting the perpetuation of these issues while seeking to minimize negative impacts to current benefits. It may be that no existing regime is directly applicable or can fully tackle the issue, so any proposed solutions to these problems should be flexible.

C. The Correct Regulatory Scheme May Not Be the Right Regulatory Scheme

[69] When speaking of regulation, the area most often brought up is gambling. Loot boxes have similar aspects to different types of traditional gambling, and there is a robust body of law regarding traditional gambling regulation. But are loot boxes actually gambling? They do not necessarily meet conditions traditionally associated with gambling particularly well.¹⁹¹ United States case law may also not be particularly helpful. Most cases discussing their relation end up being dismissed (with¹⁹² or without¹⁹³

¹⁹¹ Rune K. L. Nielsen & Pawel Grabarczyk, *Are Loot Boxes Gambling? Random Reward Mechanisms in Video Games*, 4 TRANSACTIONS DIGIT. GAMES RSCH. ASS'N 171, 198 (2019).

¹⁹² See *Coffee v. Google LLC*, No. 22-15211, 2022 U.S. App. LEXIS 20009, at *1 (9th Cir. July 20, 2022).

¹⁹³ See *Estavillo v. Blizzard Ent., Inc.*, No. 5:19-cv-05540-EJD, 2019 U.S. Dist. LEXIS 210186, at *11 (N.D. Cal. Dec. 5, 2019).

prejudice) or settled.¹⁹⁴ Furthermore, the topic of gambling is often unaddressed when cases are resolved on other points, such as lack of injury¹⁹⁵ or standing.¹⁹⁶ That is not to say all classification schemes around gambling are without merit. Some courts have signaled varying support for material valuation in physical, chance-based card packs¹⁹⁷ (leaving the individuals bringing suit without standing as a result). Additionally, the degree of similarity to actual gambling has played a role in this analysis, with courts less friendly to online applications that mimic gambling.¹⁹⁸ Whether loot boxes are similar to gambling gets further muddled by what features are included in a game's service, as loot boxes are not one size fits all. It does not help a company's case when loot box items are used for gambling activities.¹⁹⁹

[70] Though gambling law differs across states in the United States, a general baseline of three elements is typically used: chance, consideration, and prize.²⁰⁰ Typical analysis of loot boxes falling into gambling focuses on how they can satisfy these three elements since gambling classification

¹⁹⁴ See *R.A. v. Epic Games, Inc.*, No. 5:19-cv-325-BO, 2020 U.S. Dist. LEXIS 28953, at *4 (E.D. N.C. Feb. 20, 2020).

¹⁹⁵ *Id.* at *3–4.

¹⁹⁶ *Id.*

¹⁹⁷ See *Schwartz v. Upper Deck Co.*, 967 F. Supp. 405, 408, 411–13 (S.D. Cal. 1997), *vacated*, 104 F. Supp. 2d 1228 (S.D. Cal. 2000).

¹⁹⁸ See *In re Apple Inc. Litig.*, 625 F. Supp. 3d 971, 974–75, 995 (N.D. Cal. 2022).

¹⁹⁹ See Tyler Wilde, *Final Claim in CS:GO Skin Gambling Lawsuit Dismissed Because Plaintiffs Never Actually Used Steam*, PC GAMER (Jan. 13, 2022), <https://www.pcgamer.com/final-claim-in-csgo-skin-gambling-lawsuit-dismissed-because-plaintiffs-never-actually-used-steam/> [perma.cc/XVA2-P6SB].

²⁰⁰ 38 AM. JUR. 2D *Gambling* § 2 (1968).

requires satisfying all three prongs.²⁰¹ However, it is possible that none of these conditions will be satisfied depending on the set-up of a particular loot box.

[71] When attempting to defeat a classification as gambling, intuition might focus on prioritizing removing the consideration or chance aspect. However, loot boxes may not even meet the prize aspect of gambling. For starters, the contents of a loot box can have no monetary value by definition,²⁰² and they may functionally have no monetary value.²⁰³ Courts have signaled similarity to this line of thinking.²⁰⁴ They reason that the valuation of items within a game can be uncertain, and the valuation of individual items need not depend on a game account's total valuation.²⁰⁵ And as mentioned previously, many items one might receive could have no functional value even from a pure gameplay perspective.²⁰⁶ Courts in other countries have noted this as well, in the context of when only entire accounts are transferable, and items hold no value out of the game.²⁰⁷ Courts argue that when ToS prohibits conversion through a secondary market, virtual items cannot be a thing of value when converted to monetary value.²⁰⁸ Nevertheless, the prize aspect is most likely to be satisfied, as it would be

²⁰¹ *Id.*

²⁰² *End User License Agreement*, *supra* note 190.

²⁰³ Smith, *supra* note 119.

²⁰⁴ *See Soto v. Sky Union, LLC*, 159 F. Supp. 3d 871, 877, 880, 882 (N.D. Ill. 2016).

²⁰⁵ *Id.* at 879.

²⁰⁶ Smith, *supra* note 119.

²⁰⁷ *See Bill Cooney, Court Rules FIFA Ultimate Team Cards Are "Not Gambling"*, DEXERTO (Mar. 11, 2022, 4:26 PM), <https://www.dexerto.com/fifa/court-rules-fifa-ultimate-team-cards-are-not-gambling-1781613/> [perma.cc/GS99-QV5T].

²⁰⁸ *See Kater v. Churchill Downs Inc.*, 886 F.3d 784, 786 (9th Cir. 2018).

difficult to posit that no items from a loot box have even functional use within a game. Especially if the conversion of those items to fungible currency is sanctioned or easily done through secondary markets with no effort at policing by the game company.

[72] Moving on, an argument against a gambling classification is that the user does not provide consideration in many cases. As mentioned previously, gacha games often provide users with opportunities to acquire free premium currency to purchase loot boxes. Certainly, consideration does not necessarily have to be monetary payment, with time and effort considered sufficient by some courts.²⁰⁹ Furthermore, a system where individuals are provided free items but may purchase paid ones can constitute gambling.²¹⁰ That being said, one could further argue that time expenditure in gacha games is not necessarily for the free premium currency, since the user is experiencing the benefit of gameplay. A more complicated analysis is present when games have a guaranteed pity.²¹¹ In that case, gamers can acquire their desired item from a loot box after a guaranteed length of time through free currency. Paying for premium currency would be more functionally accurate as a paid time saver.

[73] Furthermore, one could buy premium currency only once they have exhausted their freely acquired reserves, and there would be no mixture of what someone paid for and what was not. In the alternative, an argument could be made that the payment for premium currency was not a consideration for gambling but a payment for an enhanced gameplay experience. After all, premium currency often has other uses than

²⁰⁹ See *State ex rel. Schillberg v. Safeway Stores*, 450 P.2d 949, 954–955 (Wash. 1969).

²¹⁰ See *G.A. Carney, Ltd. v. Brzeczek*, 453 N.E.2d 756, 761 (Ill. App. Ct. 1983).

²¹¹ *Mgdr*, *supra* note 84.

purchasing loot boxes, including buying items directly.²¹² There is little functional difference between purchasing loot boxes and paying for an item drop increase boost and hunting enemies for an item. In both cases, the player is expending real money to decrease the expected time frame to acquire an in-game item to enhance their gameplay experience.²¹³ Frankly, a player may prefer to purchase loot boxes over that alternative, as it would save them considerable time. At a certain point, the only expenditure by a player might be their time invested into a game, which is certainly far too attenuated to serve as consideration for gambling, given gameplay's inherent value.

[74] Looking to chance, it may not have a good argument if mechanisms such as pity or alternative acquisition are available in game. Starting with pity mechanisms, the player is guaranteed to receive an item after a certain number of loot boxes.²¹⁴ While there is still a chance element because a player can receive an item at any point in the limited range, this is not the only interpretation. Chance could also be treated as a purchase-price adjustment, price discrimination, or even a surprise discount, none of which are typically illegal.²¹⁵ The user is paying for an item, but the vendor (game developer) may choose to give them a reduced price. This act is similar to

²¹² E.g., whatacoolwitch, *In-Client Currency*, RIOT GAMES (June 28, 2023, 2:21 AM), <https://support-valorant.riotgames.com/hc/en-us/articles/360044792373-In-Client-Currency> [perma.cc/HF3R-5BBJ] (displaying an example of other uses of premium currency).

²¹³ E.g., *Assassin's Creed®IV Time Saver: Technology Pack*, MICROSOFT, <https://www.xbox.com/en-US/games/store/assassins-creediv-time-saver-technology-pack/C4M5LN4LP2RN/> [perma.cc/Ry8K-WPYW] (last accessed Jan. 13, 2024) (displaying an example of video game timesaver).

²¹⁴ Mgdrg, *supra* note 84.

²¹⁵ See *Price Discrimination: Robinson-Patman Violations*, FTC., <https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/price-discrimination-robinson-patman-violations> [perma.cc/DCK9-XMJK] (last accessed Jan. 13, 2024) (discussing legality of price discrimination).

when an online vendor provides a surprise discount at check out (to convince the shopper to spend money and done by game companies as well).²¹⁶ Additional examples include how airlines charge different prices depending on when you book the flight²¹⁷ or when a law student goes bar review and the bar only charges cover to one gender.²¹⁸ In this case, the game provides a discount or conducts price discrimination through a pseudo-random number generator, or it might be done intentionally.²¹⁹

[75] The presumption of chance is even less tenable when the player can directly acquire or “farm” items that are available in a game.²²⁰ In this case, the player has a baseline alternative to purchasing loot boxes for acquiring an item without the expenditure of real money, albeit likely with a time constraint.²²¹ Purchasing loot boxes to acquire the item would aptly be classified as a timesaving, gameplay-enhancing purchase. In conjunction with the pity, the amount an individual might spend would be subject to a purchase price reduction or price discrimination.

²¹⁶ King et al., *supra* note 147.

²¹⁷ Clint Henderson et al., *Plan Holiday Trips Now: The Best Time to Book Flights for the Cheapest Airfare in 2024*, POINTS GUY, <https://thepointsguy.com/guide/best-time-to-book-a-flight/> [perma.cc/DTH4-QP5R] (Oct. 1, 2024) (describing airline ticket price changes).

²¹⁸ Michael Waters, *Good Luck Getting into the Club*, ATLANTIC (Sept. 29, 2023), <https://www.theatlantic.com/family/archive/2023/09/nightclub-cover-charges-discrimination/675486/> [perma.cc/9KME-UVP2] (discussing how cover charge differs by gender).

²¹⁹ See FPS JUST. GAMING COMM’N. REP. ON LOOT BOXES 8 (2018), <https://www.gamingcommission.be/sites/default/files/2021-08/onderzoeksrapport-loot-boxen-Engels-publicatie.pdf> [perma.cc/XA7B-3JME].

²²⁰ O’Gorman, *supra* note 172.

²²¹ *Id.*

[76] Furthermore, another proposition advanced by the courts is that chance-based mechanisms should be evaluated in the context of games.²²² While a game may have chance-based aspects, if the entire game is predicated on the player's skill, then it does not meet the chance requirement for gambling.²²³ The structure of many video games is even less conducive to chance than traditional games with a chance and skill split. For example, poker is treated differently among states for gambling classification due to its chance aspects.²²⁴ In poker, player skill expression depends on the base state presented by cards determined by random chance. In other words, they are dealt a chance in the middle of play and must respond accordingly. On the other hand, for most games, loot box chance manifests simply in determining a gamer's baseline resources. Once they have that knowledge, gameplay is often purely predicated on skill expression or chance unrelated to loot boxes.²²⁵ The effect of loot boxes then is more synonymous with how an individual's socioeconomic background affects their ability to get into²²⁶ and perform²²⁷ at law school.

²²² See *Mason v. Mach. Zone, Inc.*, 851 F.3d 315, 320 (4th Cir. 2017).

²²³ *Id.* at 318.

²²⁴ See Anthony Cabot & Robert Hannum, *Poker: Public Policy, Law, Mathematics, and the Future of an American Tradition*, 22 T.M. COOLEY L. REV. 443, 459 (2005).

²²⁵ See Appendix "Influence of Individual Skill on Gameplay."

²²⁶ See Debra Cassens Weiss, *Study Finds 'Lopsided' Concentration of Socioeconomic Elites at Law Schools*, A.B.A. J. (Oct. 5, 2011, 11:00 AM), https://www.abajournal.com/news/article/study_finds_lopsided_concentration_of_socioeconomic_elites_at_law_schools [perma.cc/DK4S-SS8R]; see also Jordan Rothman, *Wealthy Applicants Have a Much Easier Time Getting Admitted to Better Law Schools*, ABOVE L. (Oct. 24, 2018, 10:59 AM), <https://abovethelaw.com/2018/10/wealthy-applicants-have-a-much-easier-time-getting-admitted-to-better-law-schools/> [perma.cc/JN3G-6TM5].

²²⁷ See Jordan Rothman, *Wealthy Students Have a Much Easier Time Succeeding in Law School*, ABOVE L. (Sept. 26, 2018, 9:58 AM), <https://abovethelaw.com/2018/09/wealthy-students-have-a-much-easier-time-succeeding-in-law-school/> [perma.cc/5BU3-4WAK].

[77] That is not to say regulators could never classify loot boxes as gambling. A game ecosystem where the player can freely trade their items (obtained from loot boxes) through a game currency, which they could convert into real monetary value, would certainly appear to be a preface for gambling, much like pachinko machines in Japan.²²⁸ If a game allows the purchase of loot boxes with money, allows free exchange between players of these items, and allows players to cash out these items and premium currency, that sounds less like a game and more like a thinly veiled money laundering operation.²²⁹ Rather, this paper posits that loot box design often does not contain one or more of these baseline elements of gambling or are sufficiently unattenuated that it would be unbecoming to treat them as such.²³⁰

[78] Again, the gambling arguments tend to do poorly in courts, regardless of what perspective they are argued. Loot boxes have been held not to be illegal gambling in different jurisdictions.²³¹ And courts often do not recognize the plaintiff has incurred any harm.²³² Even when argued from a consumer protection perspective,²³³ they find that loot boxes are not inherently unfair or unlawful, and courts have found the contrary in the

²²⁸ Johnston, *supra* note 69.

²²⁹ Cf. Alex Hern, *Counter-Strike Trading Found to Be ‘Nearly All’ Money Laundering*, GUARDIAN (Oct. 30, 2019, 1:00 PM), <https://www.theguardian.com/games/2019/oct/30/counter-strike-trading-found-to-be-nearly-all-money-laundering> [perma.cc/PY6R-FXL4] (explaining that free exchange of items and currency in Counter-Strike has led to money laundering).

²³⁰ See, e.g., *Tran v. Aniplex of Am.*, No. 22STCV23278, 2023 Cal. Super. LEXIS 18058, at *1–2, *4, *30 (Cal. App. Dep’t Super Ct. April 25, 2023); *Galway v. Valve Corp.*, No. 22-35105, 2023 U.S. App. LEXIS 1431, at *4 (9th Cir. Jan. 20, 2023).

²³¹ See *Tran*, 2023 Cal. Super. Ct. LEXIS 18058, at *1, *30; see also *Galway*, 2023 U.S. App. LEXIS 1431, at *3–4.

²³² See *Tran*, 2023 Cal. Super. Ct. LEXIS 18058, at *30.

²³³ See *Mai v. Supercell Oy*, 648 F. Supp. 3d 1130, 1138 (N.D. Cal. 2023).

specific fact patterns presented. While courts have signaled that the classification of loot boxes is affected by the jurisdiction's statutory law,²³⁴ conclusively defining loot boxes as gambling would likely require legislatures to declare so outright. And this appears unlikely, given the trajectories of proposed legislation thus far.²³⁵

[79] Furthermore, the possible harms (and benefits) conferred from loot boxes are not necessarily related or covered entirely by a gambling interpretation, and treating them as such would be insufficient for their classification. For example, there are some cases related to information and perception of loot boxes. Courts have found that failure to disclose odds in loot boxes does not constitute prima facie deception, and gamer presuppositions do not qualify for misrepresentation.²³⁶ Not all methods of gambling require disclosure of rates, and not in easy-to-access locations.²³⁷ Courts have found that lack of access to information does not constitute a defense to misrepresentation,²³⁸ which is another issue not easily addressed through a gambling framework. There are many harms and issues of recovery from injury that a traditional gambling framework applied to loot boxes would not be well equipped to combat.

[80] Why is gambling often considered as the legal framework to approach loot boxes? One reason could be that researchers have found

²³⁴ See *Taylor v. Apple, Inc.*, No. 20-cv-03906-RS, 2022 U.S. Dist. LEXIS 1468, at *1, *3, *7 (N.D. Cal. Jan. 4, 2022).

²³⁵ See Michael Brestovansky, *'Loot Box' Bills Fail to Advance*, HAW. TRIB. HERALD (Mar. 24, 2018, 12:05 AM), <https://www.hawaiitribune-herald.com/2018/03/24/hawaii-news/loot-box-bills-fail-to-advance/> [perma.cc/X6W3-5KVN].

²³⁶ See *Coy v. Lilith Games (Shanghai) Co.*, No. 19-cv-08192, 2022 U.S. Dist. LEXIS 142625, at *5, *8 (N.D. Cal. 2022).

²³⁷ See Michael Bluejay, *Slot Machine Returns (aka RTP)*, EASY VEGAS, <https://easy.vegas/games/slots/returns> [perma.cc/7PPW-UBTX] (Sept. 4, 2024).

²³⁸ See *G.G. v. Valve Corp.*, 579 F. Supp. 3d 1224, 1233, 1235 (W.D. Wash. 2022).

associations between loot box use and problem gambling, due to similarities in the psychological responses of individuals when performing these actions.²³⁹ However, loot box usage typically does not mirror the motivations of gambling.²⁴⁰ The Problem Gambling Severity Index is a tool used to measure problematic gambling,²⁴¹ but its structure can have poor applicability to loot boxes. For example, Question 3 in the index asks about winning back lost money; however, loot box outcomes generally do not provide monetary value, and if they do, they must go through many indirect channels to do so.²⁴² As a result, experts have proposed more directly applicable methods to measure loot box behavior, suggesting a need for a greater level of nuance to study their relation to gambling.²⁴³

[81] While a positive correlation between loot box usage and problem gambling has been found in some studies, pure correlation does not indicate

²³⁹ See *Loot Boxes Linked to Problem Gambling in New Research*, BBC (Apr. 2, 2021), <https://www.bbc.com/news/technology-56614281> [perma.cc/Y2ME-AHJ6].

²⁴⁰ See Philip Newall, *Beyond Gambling: The Dangers of Analogistic Reasoning in Addiction Science, and How Loot Box Psychology Should Create Its Own Unique Theory*, ADDICTION RSCH. & THEORY (Nov. 8, 2023), <https://www.tandfonline.com/doi/abs/10.1080/16066359.2023.2279082> [perma.cc/HF2Q-Y43R].

²⁴¹ See *Fact Sheet 3: Problem Gambling Severity Index (PGSI)*, VICT. RESPONSIBLE GAMBLING FOUND. (May 2020), <https://responsiblegambling.vic.gov.au/resources/publications/fact-sheet-3-problem-gambling-severity-index-pgsi-762/> [perma.cc/HC2U-Q6K8].

²⁴² *Id.*

²⁴³ See generally Gabriel A. Brooks & Luke Clark, *Associations Between Loot Box Use, Problematic Gaming and Gambling, and Gambling-related Cognitions*, 96 *Add. Behaviors* 26, 26–34 (2019).

a causal relationship in either direction.²⁴⁴ Moreso, while the two are related, there is evidence that loot box usage is not always connected with commensurate mental health indicators.²⁴⁵ Thus, while one explanation for a positive correlation would be that loot boxes cause individuals to become problem gamblers, there are others.²⁴⁶ Another explanation would be that loot boxes serve as a substitute for problem gambling.²⁴⁷ However, this is likely due to the simple mechanical reason that loot boxes consume time and money—the same inputs for gambling.²⁴⁸

[82] After purchasing and opening loot boxes, a gamer is unlikely to completely disregard the item they just acquired, and, more likely than not, will utilize it in gameplay. While the individual may also gamble and spend

²⁴⁴ See *Correlation vs. Causation*, JMP, https://www.jmp.com/en_us/statistics-knowledge-portal/what-is-correlation/correlation-vs-causation.html [perma.cc/8TSH-G8HT] (last accessed Jan. 13, 2024).

²⁴⁵ See *Tran*, 2023 Cal. Super. LEXIS 18058, at *30; see also *Galway*, No. 22-35105, 2023 U.S. App. LEXIS 1431, at *4.

²⁴⁶ Stuart G. Spicer et al., *Loot Boxes and Problem Gambling: Investigating the “Gateway Hypothesis”*, SCIENCE DIRECT (Aug. 2022), <https://www.sciencedirect.com/science/article/pii/S0306460322000934> [perma.cc/3QFB-3L8G].

²⁴⁷ See generally Adam Hayes, *Substitute*, INVESTOPEDIA, <https://www.investopedia.com/terms/s/substitute.asp> [perma.cc/HY3Z-M4U3] (July 31, 2024) (defining economic substitutes).

²⁴⁸ See Nerilee Hing et al., *Loot Box Purchasing Is Linked to Problem Gambling in Adolescents When Controlling for Monetary Gambling Participation*, NAT’L LIBR. MEDICINE (June 13, 2022), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9295209/#:~:text=Two%20meta%20analyses%20of%202013,spending%20and%20problem%20gambling%20symptomatology> [perma.cc/479X-ZUZ2].

more time on both activities than previously,²⁴⁹ they may also replace one with the other.²⁵⁰ Whether swapping one harmful activity for another potentially harmful activity accomplishes anything is debatable. However, loot box expenditures normally cannot continue ad infinitum due to their cyclical nature, and, at the very least, the user will retain access to the obtained items on their account.

[83] Another alternative is that individual gamers are instead dissuaded by their results when opening loot boxes, heightening their risk aversion. Many studies on the connection between problem gambling and loot box usage utilize voluntary surveys,²⁵¹ which will likely not be answered by individuals who have experienced probabilistically bad outcomes and no longer play gacha games.²⁵² Individuals who receive a boon of fortune are likely to act in a more risk-seeking manner, while those with bad luck are more risk-averse, as exhibited by the “house money effect” when this fortune is out of their control.²⁵³ This behavior applies to opening loot boxes, as players may receive their desired item after opening a very small number loot boxes or reaching all the way to the pity mechanism

²⁴⁹ See Esther Han, *Complements vs. Substitutes: What's the Difference?*, HARV. BUS. SCH. (Dec. 6, 2022), <https://online.hbs.edu/blog/post/complements-vs-substitutes> [perma.cc/YYZ3-455M].

²⁵⁰ *Id.*

²⁵¹ See Stuart Spicer, *New Research Highlights Video Game "Loot Box" Risks*, NAT'L INST. FOR HEALTHCARE RSCH. (Dec. 22, 2023), <https://arc-swp.nihr.ac.uk/news/giving-video-games-this-christmas-new-research-highlights-loot-box-risks/> [perma.cc/K36R-3LQH] (citing a study that uses voluntary response survey instrument).

²⁵² See generally Kinga Edwards, *What Is Non-Response Bias and Why It Matters*, SURVEYLAB (July 24, 2024), <https://www.surveylab.com/blog/what-is-non-response-bias/#:~:text=Non%2Dresponse%20bias%20happens%20when,we%20learn%20from%20a%20survey> [perma.cc/JX4Y-B9PF] (explaining non-response bias in surveys).

²⁵³ Thaler & Johnson, *supra* note 153.

threshold.²⁵⁴ Furthermore, higher risk aversion is associated with lower gambling,²⁵⁵ so opening loot boxes may instead serve to dissuade individuals from gambling. Normally, most acquisitions of items from loot boxes are worse than their expected value; for example, when there is a guarantee, it limits the tail for bad outcomes and results in the individualized rate being lower than the consolidated rate. If game companies wanted to entice people to continue playing, it might behoove them to give their players unnaturally good luck early on.²⁵⁶ In fact, some games engage in similar behavior by offering a desired item of choice with much less expenditure than normally necessary near the start of the game.²⁵⁷ And if not inherent in a game, players often remake accounts until they get a comparatively lucky outcome through “rerolling,”²⁵⁸ even when it is not an efficient use of time in terms of gained purchasing power.

²⁵⁴ See Cedric Pabriga et. al, *Pity System Guide*, IMAGINE GAMES NETWORK, https://www.ign.com/wikis/genshin-impact/Pity_System_Guide [perma.cc/3MX7-8RUJ] (Dec. 10, 2021).

²⁵⁵ See Jonathan Meng & Feng Fu, *Understanding Gambling Behaviour and Risk Attitudes Using Cryptocurrency-Based Casino Blockchain Data*, ROYAL SOCIETY OPEN SCI. (Oct. 21, 2020), <https://royalsocietypublishing.org/doi/10.1098/rsos.201446> [perma.cc/8LQG-FHSU].

²⁵⁶ See Dan Pilat & Sekoul Krastev, *Why Do We Tend to Think That Things That Happened Recently Are More Likely To Happen Again?*, DECISION LAB, <https://thedecisionlab.com/biases/availability-heuristic> [perma.cc/U8DB-4NBG] (last accessed Jan. 13, 2024).

²⁵⁷ Maeri Mgdr, *What Does Rerolling Mean in Gacha Gaming?*, FANDOMSPOT, <https://www.fandomspot.com/what-is-gacha-rerolling/> [perma.cc/G4M2-LELX] (last accessed Jan. 13, 2024).

²⁵⁸ *Id.*

[84] Loot box usage may also have systematic differences from gambling, which would result in different behavioral patterns.²⁵⁹ Even assuming that gambling is the closest traditional regulatory scheme to loot boxes, there is no logical reason it should be used as the regulatory scheme for them if it cannot effectively and adequately address their harms.²⁶⁰ Game design in gacha games meant to appeal to children²⁶¹ will not magically disappear, even if there are no loot boxes, and game developers can move these features to the new spending mechanism. Games could also inform players of what they are purchasing in each loot box while preserving the mechanism that requires excess expenditure.²⁶² After all, even if one can see that a box contains trash, and if getting treasure depends on buying that trash, then that individual will buy it regardless if they desire the treasure sufficiently. Thus, rather than one regulatory scheme, it would be much more prudent for regulators to consider how different areas of law address different parts of gacha games.²⁶³

[85] Another possible view of gacha games is a service contract between the user and the game company.²⁶⁴ This view is often supported by the ToS of the game being accessed, which states that they are simply providing the

²⁵⁹ See Leon Y. Xiao et al., *Loot Boxes, Gambling-Related Risk Factors, and Mental Health in Mainland China: A Large-Scale Survey*, 148 ADDICTIVE BEHAVS. 1, 9 (2024) (finding that loot box use is negatively associated with some mental health issues).

²⁶⁰ See *id.*

²⁶¹ See *What Is a Loot Box?*, NSPCC (June 27, 2022), <https://www.nspcc.org.uk/keeping-children-safe/online-safety/online-safety-blog/loot-boxes/> [perma.cc/7VPH-7Q2X].

²⁶² See Hall, *supra* note 9.

²⁶³ See *id.*

²⁶⁴ Evans, *supra* note 8.

user with a non-excludable²⁶⁵ and non-rivalrous²⁶⁶ license of use. Many contracts may form within a gacha game, including among users themselves and with various interactive interfaces inherently present in gameplay. Yet, the contract of importance is the purchase and opening of loot boxes. While the overarching ToS may govern the method to obtain currency to purchase a loot box and the technicalities of transactions, the mechanisms of a loot box and its reward distribution are often governed by separate and independent rules.²⁶⁷ As such, purchasing loot boxes may be viewed as an independent contract.²⁶⁸

[86] Contract formation requires three aspects: mutual assent, consideration, capacity, and legality.²⁶⁹ Assent to the game is present through the ToS offer by game publishers and acceptance by the user. Next, consideration is available to both parties as gamers get utility from playing the game, while the company gains a possible revenue source. Assuming there are no extenuating circumstances preventing capacity and the ToS is not violating any laws, those elements are met as well. Loot box purchases will also satisfy these elements, as users confirm the purchase of loot boxes, dispensed by the game after receiving premium currency.

²⁶⁵ *What Are Public Goods?*, KHAN ACAD., <https://www.khanacademy.org/economics-finance-domain/microeconomics/market-failure-and-the-role-of-government/externalities-topic/a/public-goods-cnx> [perma.cc/L9CV-H2ZD] (last accessed Jan. 13, 2024).

²⁶⁶ *Id.*

²⁶⁷ *See Navigating the Regulatory Maze: A Global Guide to Loot Boxes in Video Gaming*, DLA PIPER (July 27, 2023) [hereinafter *Navigating the Regulatory Maze*], <https://www.dlapiper.com/en-us/insights/topics/loot-boxes> [perma.cc/Y5RG-RMKZ].

²⁶⁸ *See Contract*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/contract> [perma.cc/4JKG-QT93] (last accessed Jan. 13, 2024).

²⁶⁹ *See id.*

[87] Assuming playing the game and purchasing loot boxes are valid contracts between a player and the company, then infancy becomes an avenue for the protection of minors.²⁷⁰ Many harms attributed to loot boxes often involve minors spending large sums of money, sometimes to the point of causing severe financial strain.²⁷¹ By disaffirming a contract, a minor may be able to recover their financial expenditures, as courts will treat the contract as never having existed with legal force.²⁷² The minor would have never provided monetary consideration, while the company never provided the loot boxes. Even if the company may terminate the minor's account afterward and cause them to lose all content and progress, perhaps that is the optimal outcome if they make excessive purchases in that game.

[88] Additionally, a contractual obligation between parties makes misrepresentation as a potential actionable issue available.²⁷³ Misrepresentation can be from a lack of disclosure of important information by the game company or a direct false or misleading statement.²⁷⁴ If the game company were to publish inaccurate rates, seeking to mislead players into believing a higher rate exists than in actuality, they are likely making a fraudulent representation.²⁷⁵ Assuming the game is an active service

²⁷⁰ See *Infancy*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/infancy> [perma.cc/Q6HW-N4WV] (last updated June 2023).

²⁷¹ E.g., Emma Lunn, *Parents Forced to Remortgage to Cover Gamers' Loot Box Debts*, YOURMONEY.COM (Dec. 23, 2020), <https://www.yourmoney.com/mortgages/parents-forced-to-remortgage-to-cover-gamers-loot-box-debts/> [perma.cc/D72N-L5XP].

²⁷² See *Void*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/void> [perma.cc/2ZPB-JWP7] (last updated July 2024).

²⁷³ See *Misrepresentation*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/misrepresentation> [perma.cc/SBH8-L2T6] (last updated Dec. 2020).

²⁷⁴ *Id.*

²⁷⁵ *Fraudulent Misrepresentation*, *supra* note 127.

provided by the company to the user with loot boxes as a component of that service, then the game company would not be providing the service it claims to do so.

[89] On a related note, deception and misrepresentation by game companies may also be actionable as false advertising.²⁷⁶ Before player consumption, companies may advertise loot box item rates with descriptors that would lead consumers to believe the chance is extremely high when they are not. Such deception would likely meet the requirements of false advertising due to its intent to have players play their game and spend money on loot boxes under this mistaken notion.²⁷⁷ This need not be limited to advertising outside the game, either. Arguably, loot boxes are instead a separate product within the game, such that deceptive advertising occurring there can qualify as well.²⁷⁸ Often, games will advertise for opening loot boxes internally through popup windows or other intrusive notifications, and the descriptions on these internal advertisements may be misleading or fraudulent, such as if the posted rates are false.²⁷⁹

[90] At first glance, unconscionability may seem like another area of approach due to what is provided for the associated cost.²⁸⁰ However, this argument again relies on a normative judgment of the valuation of obtained

²⁷⁶ *False Advertising*, *supra* note 128.

²⁷⁷ *Id.*

²⁷⁸ *See Vance*, *supra* note 11.

²⁷⁹ Christopher L. Boone, *FTC Scrutinizes Loot Boxes – What Are the Odds?*, VENABLE LLP (Aug. 24, 2020), <https://www.allaboutadvertisinglaw.com/2020/08/ftc-scrutinizes-loot-boxes-what-are-the-odds.html> [perma.cc/8J6F-4GDS].

²⁸⁰ *See Unconscionability*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/unconscionability> [perma.cc/5FYA-VDCT] (last updated June 2024).

items. One could consider ToS possibly procedurally unconscionable.²⁸¹ After all, the user has no ability to modify the terms, most individuals likely have difficulty evaluating their meaning,²⁸² and they may not normally be inclined to access them at all.²⁸³ However, substantive unconscionability²⁸⁴ may prove difficult to sustain in most cases, thus defeating the entire claim. Unconscionability may be a useful argument to pursue in addition to misrepresentation,²⁸⁵ such as when contract terms for a game or loot box contain deliberately vague wording or misleading statements.²⁸⁶ Yet, when there is clarity in the terms, should the courts be making valuation judgments on the total worth of digital items to a gamer's gameplay experience? A contract that may seem unreasonable to one individual may seem perfectly fine to another as long as they truly value what they receive more than what they give up.

²⁸¹ See *Procedural Unconscionability: Everything You Need to Know*, UPCOUNSEL, <https://www.upcounsel.com/procedural-unconscionability> [perma.cc/25ZD-3Z5Z] (last updated Jan. 1, 2024).

²⁸² See Dustin Patar, *Most Online 'Terms of Service' Are Incomprehensible to Adults, Study Finds*, VICE (Feb. 12, 2019, 3:51 PM), <https://www.vice.com/en/article/xwbg7j/online-contract-terms-of-service-are-incomprehensible-to-adults-study-finds> [perma.cc/X2R6-UK6S] (noting that most adults cannot understand ToS).

²⁸³ See Caroline Cakebread, *You're Not Alone, No One Reads Terms of Service Agreements*, BUS. INSIDER (Nov. 15, 2017, 7:30 AM), <https://www.businessinsider.com/deloitte-study-91-percent-agree-terms-of-service-without-reading-2017-11> [perma.cc/2MLC-ZS9F] (noting that most people are not inclined to read ToS before signing).

²⁸⁴ See *Substantive Unconscionability: Everything You Need to Know*, UPCOUNSEL, <https://www.upcounsel.com/substantive-unconscionability> [perma.cc/Y99E-MT58] (last updated Sept. 19, 2022).

²⁸⁵ *Misrepresentation*, *supra* note 273.

²⁸⁶ *Id.*

[91] The modern ToS for accessing online video games behaves as a standard form contract,²⁸⁷ which extends to loot box purchases.²⁸⁸ Access to the game and loot boxes is typically restricted behind accepting this contract, and the user typically cannot bargain on its terms. As a result, there may be an argument for lack of notice,²⁸⁹ dependent on the presentation of the acceptance and presence of important terms of the contract. On the other hand, an argument for lack of choice would be weaker.²⁹⁰ While consumers are prevented from accessing a specific game without accepting its ToS, they have a robust marketplace of games as substitutes to choose from.

[92] Whether these standard form contracts are substantively fair²⁹¹ would again most likely depend on the specific terms employed. Even seemingly one-sided terms in these agreements may be proper when viewed contextually.²⁹² For example, games may have clauses in their ToS for unilateral termination of a user's account.²⁹³ This promise may appear to be

²⁸⁷ See *Standard Form Contract*, WESTLAW, [https://content.next.westlaw.com/practical-law/document/I0429d38e909311e698dc8b09b4f043e0/Standard-form-contract?viewType=FullText&transitionType=Default&contextData=\(sc.Default\)&bhpc=1&firstPage=true](https://content.next.westlaw.com/practical-law/document/I0429d38e909311e698dc8b09b4f043e0/Standard-form-contract?viewType=FullText&transitionType=Default&contextData=(sc.Default)&bhpc=1&firstPage=true) [perma.cc/4YCG-NSWZ] (last accessed Jan. 13, 2024).

²⁸⁸ See Tuomas Pelkonen, *Legal Risks of Loot Boxes – Part II*, NORDIA (Mar. 13, 2023), <https://nordialaw.com/legal-risks-of-loot-boxes/> [perma.cc/TQ9V-7MG9].

²⁸⁹ See *What Does Lack of Notice Mean in Contracts?*, IRONCLAD J., <https://ironcladapp.com/journal/contract-management/lack-of-notice/> [perma.cc/4RJH-2KQX] (last accessed Jan. 13, 2024).

²⁹⁰ See *What Makes a Contract Invalid?*, IRONCLAD J., <https://ironcladapp.com/journal/contracts/what-makes-a-contract-invalid/> [perma.cc/KP6S-Y27A] (last accessed Jan. 16, 2025).

²⁹¹ See *Adhesion Contract (Contract of Adhesion)*, LEGAL INFO. INST., [https://www.law.cornell.edu/wex/adhesion_contract_\(contract_of_adhesion\)](https://www.law.cornell.edu/wex/adhesion_contract_(contract_of_adhesion)) [perma.cc/MRN3-YFRQ] (last updated Dec. 2021).

²⁹² *Id.*

illusory²⁹⁴ given the uncertain conditional nature of account access by the user. However, companies may have good reasons to reserve the right to account termination, such as for players who are disrupting gameplay for others or participating in illegal hacking.²⁹⁵ Termination is normally reversible as well, and access can often be restored in cases of mistaken discontinuation or following a successful appeal for restoration.²⁹⁶ In essence, while the game company may have unilateral authority to terminate a user's account, a more accurate description is that the game developer grants the user conditional account access contingent on proper usage of the game. Of course, if game companies arbitrarily terminate user accounts, there is a greater argument that no valid contract was ever formed.²⁹⁷

²⁹³ *Id.*

²⁹⁴ See *Illusory Promise*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/illusory_promise [perma.cc/VJ57-MT3A] (last updated Mar. 2023).

²⁹⁵ E.g., Andy Brown, 'Dota 2' Bans 40,000 Cheaters by Using Their Own Hacks Against Them, NME (Feb. 22, 2023), https://www.nme.com/en_asia/news/gaming-news/dota-2-bans-40000-cheaters-by-using-their-own-hacks-against-them-3403007 [perma.cc/HBM8-EC5R].

²⁹⁶ See *Banned by Game Developer (Game Ban)*, STEAM, <https://help.steampowered.com/en/faqs/view/46DB-4CEC-F7E9-49E5#:~:text=Game%20developers%20inform%20Valve%20when,instructed%20by%20the%20game%20developer.> [https://perma.cc/4AAX-489V] (last accessed Jan. 13, 2024) (describing appeal process if banned on platform).

²⁹⁷ See *Legal Documentation*, WARGAMING.NET, <https://legal.na.wargaming.net/en/game-rules/> [perma.cc/7DP4-B6R9] (describing arbitrary authority game company has to ban players). See *Game Rules for World of Tanks, World of Tanks on Console, World of Warplanes*, WARGAMING.NET, <https://legal.na.wargaming.net/en/game-rules/> [perma.cc/7DP4-B6R9] (describing arbitrary authority game company has to ban players).

[93] Rather than gambling, a more contextually accurate representation of loot may be payment to unlock additional features of a service.²⁹⁸ This comparison becomes more relevant when features to reduce variability and improve clarity are added, such as the guaranteed item acquisition and rate and mechanism disclosures. Then, it could be said that players are subject to individualized price discrimination²⁹⁹ or personalized discounts when purchasing additional services in the form loot box items. The game will provide the desired item within a specific number of loot boxes, but it may be provided to the player earlier at a lower cost. Even when there is no chance involved, the game must still abide by contract terms, or players will have access to legal remedies.³⁰⁰

[94] This interpretation states an alternative of a video game system with loot boxes as a contract for service may be a more viable manner to properly capture their features and provide a remedy.³⁰¹ However, that is not to say a contractual lens would always be the optimal solution, especially when there is difficulty enforcing contracts and concerns may arise from areas

²⁹⁸ James Gatto & Mark Patrick, *Are Loot Boxes an Illegal Gambling Mechanic?*, SHEPPARDMULLIN (Oct. 24, 2017), <https://www.mygamecounsel.com/wp-content/uploads/sites/32/2017/10/Loot-Boxes.pdf> [perma.cc/KH8A-7J8T].

²⁹⁹ Horton, *supra* note 103.

³⁰⁰ See *Breach of Contract*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/breach_of_contract [perma.cc/X4FK-KXM8] (last updated June 2022).

³⁰¹ See Arthur Carvalho, *Bringing Transparency and Trustworthiness to Loot Boxes with Blockchain and Smart Contracts*, 144 DECISION SUPPORT SYS. 1 (2021).

unrelated to contractual terms.³⁰² Rather, no regulatory regime is the best regulatory regime to address loot boxes.³⁰³ Or perhaps the more apt description would be all of the regulatory regimes are best when they are applicable.³⁰⁴ Are the items dispensed completely by chance and easily fungible? Address those harms through gambling. Is there deception by the company and a failure to fulfill the stated terms? A contractual interpretation may be more prudent. In a situation where neither are applicable, then use a different field of law to answer the question, based on similarities to the underlying mechanisms and motivations of the situation. As loot boxes and video game monetization, more generally, are always changing and evolving,³⁰⁵ the law should mirror such change to properly categorize the harms they cause and provide appropriate remedies.

IV. REGULATORY SOLUTIONS

[95] Before addressing potential solutions, it is necessary to highlight the difficulties present when attempting to do so. There is always a constitutionality concern for any proposed regulation³⁰⁶ towards mitigating harms, and that is under the presumption that regulation would pass at all,

³⁰² *Smart Contract Challenges*, HEDERA, <https://hedera.com/learning/smart-contracts/smart-contract-challenges#:~:text=Legal%20challenges,will%20be%20respected%20across%20countries> [perma.cc/TT8Z-PE2P].

³⁰³ *Video Gaming: Is My Loot Box Legal?*, SKADDEN (Sept. 26, 2019), https://www.skadden.com/-/media/files/publications/2019/09/quarterly-insights/video_gaming_is_my_loot_box_legal.pdf [perma.cc/BBC6-8LA4].

³⁰⁴ *Navigating the Regulatory Maze*, *supra* note 267.

³⁰⁵ See Steven T. Wright, *The Evolution of Loot Boxes*, PCGAMER (Dec. 8, 2017), <https://www.pcgamer.com/the-evolution-of-loot-boxes/> [perma.cc/9KKJ-USBY].

³⁰⁶ See Brendan Sinclair, *Would Freedom of Speech Beat Loot Box Legislation?*, GAMESINDUSTRY.BIZ (July 17, 2019), <https://www.gamesindustry.biz/articles/2019-07-11-would-freedom-of-speech-beat-loot-box-legislation-opinion> [perma.cc/FEV6-VJT2].

which does not have a good track record.³⁰⁷ Part of this may be due to pushback from the regulated entities,³⁰⁸ and it would be remiss to assume that an industry would not lobby against any regulation they deem detrimental to their interests. There is also a concern about regulatory capture,³⁰⁹ particularly if there is overlap between the regulators and the industry they regulate. Furthermore, the actual outcome of any regulation may differ from the expected or intended outcome with unintended consequences. This paper does not purport to address all possible problems and all possible effects of regulation, nor will proposed solutions necessarily be inherently viable or feasible. Rather, the author believes that the comprehensive discussion that follows will serve to be of use for if and when this topic is actually taken into consideration by regulators.

[96] Whether addressing possible addiction harms in gacha games or harms arising from a difference in stated conditions, one consideration should always be the default effect.³¹⁰ Default rules alter behavior, even when changing status is relatively easy.³¹¹ Whether people find it difficult to change their behavior or oppose a greater number of actions that make things more complicated, individuals are discouraged from changing from

³⁰⁷ Brestovansky, *supra* note 235.

³⁰⁸ See Jason Schreier, *ESRB Says It Doesn't See 'Loot Boxes' As Gambling*, KOTAKU (Oct. 11, 2017), <https://kotaku.com/esrb-says-it-doesnt-see-loot-boxes-as-gambling-1819363091> [perma.cc/Q4AU-YKQY].

³⁰⁹ Will Kenton, *Regulatory Capture Definition with Examples*, INVESTOPEDIA, <https://www.investopedia.com/terms/r/regulatory-capture.asp> [perma.cc/TF65-8AMX] (Aug. 1, 2024).

³¹⁰ Anne-Laure Le Cunff, *The Default Effect: Why We Renounce Our Ability to Choose*, NESS LABS, <https://nesslabs.com/default-effect> [perma.cc/42TY-V674] (last accessed Jan. 13, 2024).

³¹¹ *C.f.* Francesca Scheiber, *'Opt Out' Policies Increase Organ Donation*, STAN. U., <https://sparq.stanford.edu/solutions/opt-out-policies-increase-organ-donation> [perma.cc/273A-TV8Y] (last accessed Jan. 13, 2024) (highlighting effects from changing default rules in organ donation).

an initial state.³¹² Rather than implementing a total ban on any feature, it may be that reducing its use through default state alteration would reduce harm without completely eliminating benefits.

[97] Starting with general gacha game addiction risks, changing user behavioral patterns would entail altering their habitual tendency of daily gameplay.³¹³ Chinese regulators have endorsed such a notion, proposing rules³¹⁴ targeting rewards for daily use, and seeking to restrict first-time and cumulative spending enticements in games. However, Chinese officials pulled back these proposed regulations due to their negative impact on the gaming sector in China.³¹⁵ These actions demonstrates that even theoretical regulations pose costs for game developers.³¹⁶ Not to mention, this particular restriction on daily log-in rewards may not be all that effective at reducing daily play³¹⁷, as there may be other motivations for a player to engage daily regardless. Such motivations can occur if individuals have

³¹² *Id.*

³¹³ See *Changing Habits*, LEARNING CTR. U.N.C., <https://learningcenter.unc.edu/tips-andtools/changing-habits/> [perma.cc/FU7J-WRGG] (last accessed Jan. 13, 2024) (detailing time required to change daily habits).

³¹⁴ Josh Ye, *China Announces Rules to Reduce Spending on Video Games*, REUTERS (Dec 22, 2023, 9:05 AM), <https://www.reuters.com/world/china/china-issues-draft-rules-online-game-management-2023-12-22/> [perma.cc/QV42-9WAV].

³¹⁵ Josh Ye, *Exclusive: China Removes Official After Video Games Rules Spark Turmoil*, REUTERS (Jan. 2, 2024, 7:11 PM), <https://www.reuters.com/world/china/china-removes-official-after-video-games-rules-spark-turmoil-sources-2024-01-02/> [perma.cc/K6JW-WYKV].

³¹⁶ See *id.*

³¹⁷ See Evelyn Cheng, *China's Potential New Gaming Rules Will Hit Smaller Developers More, Analyst Says*, CNBC (Dec. 24, 2023, 11:09 PM), <https://www.cnbc.com/2023/12/25/chinas-potential-new-gaming-rules-will-hit-smaller-developers-more.html> [perma.cc/E5CB-PWE8] (explaining how large developers have alternative player retention methods).

daily missions to acquire limited free premium currency or time-gated resources that cannot accrue more than daily. Effective regulation to prevent habit formation of continuous play would need to restrict any sort of daily play encouragement system, but that cost may be too much to bear.³¹⁸ Furthermore, this would be a highly intrusive reach by the government into gameplay design, which game companies would not take particularly kindly to.³¹⁹

[98] Rather than targeting game consumption, regulation would perhaps be better focused on creating barriers to spending.³²⁰ Addiction to a game creates a temporal loss for users compared to when they behave rationally. However, they are not inherently suffering a monetary loss, and excessive play may result in complete discontinuation in the long run due to burnout.³²¹ One way to restrict spending organically would be to lock the payment system behind progression in a game. Regulators can achieve this in terms of total play time or through level of advancement in the game. After all, locking the ability to spend behind sufficient gameplay assures that the gamer has experienced a reasonable extent of the game, with more robust information to determine whether spending provides them the requisite utility to be economically justifiable.³²² Though, the same

³¹⁸ *Id.*

³¹⁹ *See id.*

³²⁰ *See* Sophie Duffy & Jeffrey Derevensky, *A Public Health Perspective on the Necessity of Regulation for the Video Gaming Industry*, HSOA J. ADDICTION & ADDICTIVE DISORDERS (May 5, 2022), <https://www.heraldopenaccess.us/openaccess/a-public-health-perspective-on-the-necessity-of-regulation-for-the-video-gaming-industry> [perma.cc/8M8E-WTKA].

³²¹ *See The 3 Types of Burnout Explained*, BREYTA (Jan. 5, 2024), <https://www.breytapsych.com/blog/the-3-types-of-burnout-explained/2021/4/11> [perma.cc/RD9A-TNE2].

³²² *See* Yiting Deng et al., *Consumer Sophistication, Word-of-Mouth and “False” Promotions*, 152 J. ECON. BEHAV. & ORG. 98 (2018).

argument against reaching too far into gameplay design applies. Not to mention that sufficiently sophisticated consumers would be worse off if unable to access beneficial items early on in gameplay, resulting in tradeoffs and difficulties.³²³

[99] Instead of restricting spending entirely, it may be more feasible to target spending amount.³²⁴ Evidence suggests that individuals respond to a set spending limit,³²⁵ even if attempts to circumvent it exists. In the context of the default effect, this would mean requiring gacha games to have a preset spending limit. A spending limit preset could be implemented monthly or in a similarly regular fashion, such as in each game update cycle (as are concentrated with new content releases). Individuals could spend more than the limit but would have to manually disable or set a different limit.³²⁶ Though, this would still face implementation difficulties.³²⁷ Set the limit too

³²³ *Id.*

³²⁴ See Michael Auer et al., *Global Limit Setting as a Responsible Gambling Tool: What Do Players Think?*, 18 INT’L J. MENTAL HEALTH & ADDICTION 14, 15 (2018).

³²⁵ *Id.* (showing individuals respond to limit setting in a traditional gambling context).

³²⁶ *E.g.*, *Set a Budget for Your Google Play Expenses*, GOOGLE PLAY HELP, <https://support.google.com/googleplay/answer/9281767?hl=en> [perma.cc/6UU8-BD94] (last accessed Sept. 4, 2024) (discussing how to enable spending limit on Google play store, which is disabled by default).

³²⁷ See Kiara Hildeman, *Glorified Gambling: Moral and Legal Issues Within the Gacha Gaming Industry*, WASH. J. L., TECH. & ARTS (Dec. 7, 2022), <https://wjlt.com/2022/12/07/glorified-gambling-moral-and-legal-issues-within-the-gacha-gaming-industry/> [perma.cc/9DVZ-B3EP].

low, and every spender will have to disable it before making purchases.³²⁸ This makes it ineffective at discouraging excessive spending once a gamer has made any purchase. Set the limit too high, and most spenders will not be affected and can still overspend their rational amount.³²⁹ Furthermore, a decision on whether to implement the spending limit as a binary on-off switch or something requiring disabling every spending cycle would be necessary. The latter would arguably provide greater coverage and more efficacy at reducing spending.³³⁰ It would also be more disruptive and detrimental to a user's experience, which the companies would argue as justification against it.³³¹

[100] In addition to restricting spending, one method to discourage excess spending is making total spending more cognizable to the player.³³² For example, emblazoning a spending amount prominently on the game's spending page or even directly on the purchase confirmation, so that users are sufficiently notified on their cumulative spending. While games may already provide information on a user's total expenditures, they often obfuscate the amount in fungible currency by converting it to an in-game

³²⁸ See Rob Davies, 'No Way Out': How Video Games Use Tricks from Gambling to Attract Big Spenders, *GUARDIAN* (July 14, 2023), www.theguardian.com/society/2023/jul/14/video-games-gambling-big-spenders#:~:text=The%20mobile%20gaming%20industry%20deploys,into%20the%20minority%20who%20do [perma.cc/JC8T-ZBZT] (showing the psychological tricks from gambling do the games industry use).

³²⁹ See *id.* (demonstrating the psychological tricks from gambling do the games industry use).

³³⁰ See *id.*

³³¹ See *id.*

³³² See Nikola Lakić et al., *Addiction and Spending in Gacha Games*, *MDPI* (July 13, 2023), <https://doi.org/10.3390/info14070399> [perma.cc/JT6Q-3WSP].

system to reduce transparency and awareness.³³³ There is little justification against implementing this; it is not particularly difficult to code a counter, and it is a simple information disclosure. One consequence is that gamers may be uncomfortable when directly confronted with this amount every time they make a purchase.³³⁴ While experiencing guilt can be beneficial, experiencing shame may be detrimental to their health,³³⁵ so regulators must pay careful consideration to ensure this action is not harmful to these individuals.

[101] There are other ways to restrict spending in some fashion, such as by indirectly setting a cap on the number of loot boxes that players can open.³³⁶ Regardless of the action's form, though, it will functionally work by restricting access to the payment system, limiting the payment amount, or increasing salience of total expenditure.³³⁷ While regulating each area may provide certain benefits, they will entail corresponding costs that may

³³³ See Katherine Latham, *How Computer Games Encourage Kids to Spend Cash*, BBC (May 15, 2023), <https://www.bbc.com/news/business-65372710> [perma.cc/C5A4-HKL7].

³³⁴ *Id.*

³³⁵ See Annette Kammerer, *The Scientific Underpinnings and Impacts of Shame*, SCI. AM., Nov.–Dec. 2019, at 43 (explaining the difference between shame and guilt and their effects).

³³⁶ Aaron Drummond et al., *Loot Box Limit-Setting: A Potential Policy to Protect Video Game Users with Gambling Problems?*, 114 ADDICTION 935, 935 (2019).

³³⁷ *Id.*

exceed the benefits provided.³³⁸ And they will certainly face pushback from the regulated entities with varying degrees of justification.³³⁹

[102] Outside of affecting spending, addressing other areas of interaction with vulnerable populations, such as minors and addicted users, may lower risks of harm.³⁴⁰ One example would be limiting how game developers present a loot box opening. The design of gamer interaction with loot boxes may encourage overconsumption irrespective of the inherent loot box mechanism, such as when games have accompanying visuals and effects that appeal to children.³⁴¹ Rather than prohibiting any sort of accompanying effects with opening loot boxes, though, another application of default rule alteration may be more suitable.³⁴² Opening loot boxes could have these effects disabled by default, with results reported as a concise and plain list of text. Furthermore, rather than providing the option to open a certain number of loot boxes, the default option could be to open until obtaining the desired item (capped by the guarantee value) or as many as possible if they lack sufficient premium currency. This system would be externally

³³⁸ See Christian Nunley, *Why the \$183 Billion Video Game Industry Can't Quit Microtransactions*, CNBC (Mar. 24, 2024, 9:00 AM), <https://www.cnn.com/2024/03/24/why-the-183-billion-video-game-industry-cant-quit-microtransactions.html> [perma.cc/K93D-L4YZ].

³³⁹ *Id.*

³⁴⁰ See generally Aaron Drummond et al., *Surprisingly High Prevalence Rates of Severe Psychological Distress Among Consumers Who Purchase Loot Boxes in Video Games*, 12 SCI. REPS. 16128 (2022) (discussing how the negative effects of loot boxes are not limited to spending an increased amount of money but include mental distress and other issues; additionally, regulating loot boxes should reduce the impact on gamers' mental health).

³⁴¹ See Simone van der Hof et al., "Don't Gamble with Children's Rights"—How Behavioral Design Impacts the Right of Children to a Playful and Healthy Game Environment, 4 FRONTIERS DIGIT. HEALTH 1, 1–2, 13–14 (2022).

³⁴² *Id.*

beneficial since it generally acts as a timesaver for players compared to opening loot boxes individually.³⁴³

[103] It is necessary to caution that while this removes the enticing display effects that encourage spending, gamers might not actually spend less money under the system.³⁴⁴ Rather, these individuals may spend even more money.³⁴⁵ Take the pity mechanism, for example: while it is generally thought of as a positive contribution to loot boxes by decreasing uncertainty and eliminating worst-case outcomes, it also serves as an anchor³⁴⁶ for decision-making in consumer spending. If a gamer had no pity, they could decide to forgo further loot box purchases after a run of bad luck; however, if they have a target value to aim for, they may continue purchasing loot boxes if it is sufficiently close.³⁴⁷ Correspondingly, providing a purchase until acquisition option removes the avenue for a user to experience buyer's remorse³⁴⁸ before acquiring their desired item compared to opening loot boxes individually. Mechanically speaking, it would also be simpler and less time-consuming to open them all at once, as the tedious nature of individual opening discourages some users from making more impulsive

³⁴³ Leon Y. Xiao & Philip Newall, *Probability Disclosures Are Not Enough: Reducing Loot Box Reward Complexity as a Part of Ethical Video Game Design*, J. GAMBLING ISSUES 1, 1, 6–7 (2022).

³⁴⁴ See David Zandle et al., *Paying for Loot Boxes Is Linked to Problem Gambling, Regardless of Specific Features Like Cash-Out and Pay-to-Win*, 102 COMPUTS. HUM. BEHAV. 181, 190 (2020).

³⁴⁵ *Id.*

³⁴⁶ See Lunzheng Li et al., *Anchoring in Economics: A Meta-Analysis of Studies on Willingness-to-Pay and Willingness-to-Accept*, 90 J. BEHAV. EXPERIMENTAL ECON. 1, 1 (2021).

³⁴⁷ *Id.*

³⁴⁸ *C.f.* Ruben Caginalp, *What Is Buyer's Remorse for Homebuyers, and How Can I Avoid It?*, BANKRATE (July 31, 2023), <https://www.bankrate.com/real-estate/buyers-remorse/> [perma.cc/7DMZ-U8T9].

purchases.³⁴⁹ In fact, some games inherently encourage players to open loot boxes in larger denominations by giving a bonus.³⁵⁰ Caution should be taken towards any changes that make opening more loot boxes easier, even if they would address other problematic aspects.³⁵¹

[104] Apart from making loot boxes directly enticing to open, companies may enhance the desirability of their items by introducing artificial scarcity by limiting their availability.³⁵² While current owners of an item may prefer no future availability to maintain exclusivity,³⁵³ those without it would likely prefer greater availability for collection purposes.³⁵⁴ Loss aversion may induce gamers to spend money if an item has a limited acquisitional time frame.³⁵⁵ This occurs particularly when individuals are given free loot boxes and still do not acquire the item, in tandem with a pity counter that

³⁴⁹ See Kengo Yokomitsu et al., *Characteristics of Gamers Who Purchase Loot Box: A Systematic Literature Review*, 8 CURRENT ADDICTION REPS. 481, 488 (2021).

³⁵⁰ E.g., Timothy Monbleau, *Are 10-Pulls Better Than Single Pulls in Final Fantasy 7: Ever Crisis?*, DESTRUCTOID (Sept. 7, 2023, 11:40 AM), <https://www.destructoid.com/are-10-pulls-better-than-single-pulls-in-final-fantasy-7-ever-crisis/> [perma.cc/3MLE-UYW5] (providing example where developer encouragement pulls in larger denominations).

³⁵¹ See Mark Warren, *Loot Boxes: Exploitative Menace or Necessary Practice?* SHORTHAND, <https://universityofsunderland.shorthandstories.com/loot-boxes--exploitative-menace-or-necessary-practice--/index.html> [perma.cc/Z429-7VFC] (last accessed Sept. 15, 2024).

³⁵² *Scarcity in Collectibles: Artificial Scarcity vs. Natural Scarcity, What's the Difference?*, ALTAN INSIGHTS (Jan. 25, 2023), <https://www.altaninsights.com/resources/scarcity-in-collectibles-artificial-scarcity-vs-natural-scarcity-whats-the-difference> [perma.cc/7RZW-PDCM].

³⁵³ DeAcetis, *supra* note 104.

³⁵⁴ Dillon, *supra* note 105.

³⁵⁵ Pilat & Krastev, *supra* note 169.

does not carry over to the next limited item.³⁵⁶ One way to address this would be to remove free samples (and free samples generally resulting from frontloaded free premium currency acquisition), but this would hurt rational consumers by simply reducing their freely obtained resources.³⁵⁷ Alternatively, it could be mandated that users retain purchase access to any item so long as they were playing during the initial limited availability window. This alternative purchasing window would remove the temporal restriction component. However, the tradeoff is that spending may increase as players would now have perpetual access to items they may otherwise have given up on due to a limited availability window.³⁵⁸

[105] Another avenue of harm reduction could be restricting access to spending but for specific groups of individuals rather than the entire game population.³⁵⁹ Proponents of this type of spending restriction often suggest requiring the provision of a phone number or other identifying information such as a social security number during account registration (currently

³⁵⁶ E.g., *7 Things to Know About Genshin Impact's Pity System*, CBR (Feb. 3, 2022), <https://www.cbr.com/things-know-about-genshin-impacts-pity-system/> [perma.cc/VP7M-8NM6]; see Zaid Khalid, *The Psychology of Loot Boxes: How Game Developers Exploit Human Behavior for Profit*, MEDIUM (Sept. 13, 2023), <https://medium.com/@Zaid-Khalid/the-psychology-of-loot-boxes-how-game-developers-exploit-human-behavior-for-profit-5e7afcc6d861> [perma.cc/TF35-RX3H].

³⁵⁷ See Joseph Macey et al., *How Can the Potential Harms of Loot Boxes Be Minimised?: Proposals for Understanding and Addressing Issues at a National Level*, 11 J. BEHAV. ADDICTIONS 256, 257 (2022).

³⁵⁸ See Kent Jeshua Perdana & Miharni Tjokrosaputro, *Factors Affecting Players to Buy Virtual Items in Online Games*, 1 INT'L J. APPLICATION ON ECON. AND BUS. 547, 549 (2023).

³⁵⁹ *Principles of Harm Reduction*, NAT'L HARM REDUCTION COAL., <https://harmreduction.org/about-us/principles-of-harm-reduction/> [perma.cc/3UPR-9TGR].

performed in China)³⁶⁰ or through even more intrusive processes, such as credit checks. Rather than at account creation, it may also be less disruptive if any additional requirement occurs for access to payment. This leaves the majority of users unaffected.³⁶¹ Not to mention, a broad-reaching policy would likely be unpopular with gamers themselves.³⁶² Pushback would also occur from game companies, given their incentive for making these game accounts easy to create by requiring less identifying information.³⁶³ While companies may wish to prevent transactions of high-value accounts between players, this would not be the case for low-value botted accounts that they stand to benefit from.³⁶⁴ Furthermore, requiring a credit check or other financial investigation would likely come across as excessive to regulators, especially when transactions of greater magnitudes with broader implications may not require them.³⁶⁵ There is also a question of whether gamers would be comfortable with game companies having identifying or

³⁶⁰ See *How to Publish My Game in China*, 21 YUNBOX (Sept. 18, 2023), <https://www.21cloudbox.com/how-to-publish-my-game-in-china.html> [perma.cc/85DJ-YAJL] (listing requirements for publishing a game in China).

³⁶¹ See *Study: Only 2.2% of Free-to-Play Mobile Users Actually Pay*, GAME RANT (Apr. 11, 2014), <https://gamerant.com/free-to-play-games-profits-statistics/> [perma.cc/3H74-4M3P] (showing most free-to-play game users do not spend money).

³⁶² See Kyle Orland, *Blizzard Scales Back Overwatch 2's Controversial Phone Number Requirement*, ARSTECHNICA (Oct. 6, 2022, 12:28 PM), <https://arstechnica.com/gaming/2022/10/blizzard-scales-back-overwatch-2s-controversial-phone-number-requirement/> [perma.cc/Q6XM-Y4VS] (showing backlash from users from stricter account requirements).

³⁶³ See Tafara Muwandi, *Fake Account Creation Bots – Part 2*, F5 LABS (Oct. 12, 2023), <https://www.f5.com/labs/articles/threat-intelligence/fake-account-creation-bots-part-2> [perma.cc/K7KG-UCEU].

³⁶⁴ *Id.*

³⁶⁵ Cf. Jasmin Suknanan, *5 Best Student Loans for Applicants with Bad or No Credit*, CNBC: SELECT, <https://www.cnbc.com/select/best-bad-credit-student-loans/> [perma.cc/8JK7-6NFJ] (Sept. 11, 2024) (showing that some student loan providers consider applicants with no credit).

financial information on them, given their current distaste for being spied on.³⁶⁶

[106] Another broader consideration would be requiring devices to have pre-installed parental controls when purchased for children.³⁶⁷ Again, this would alter the default rule since parental controls are currently not required or enabled automatically on devices used by children.³⁶⁸ Given that a large proportion of parents do not enable parental controls on their dependents' devices,³⁶⁹ altering the default settings to require disabling it instead would likely increase use.³⁷⁰ Loot boxes are not the only possible avenue of harm toward minors; many things on the internet can have detrimental exposure.³⁷¹ However, creating legislation on this topic would put the onus

³⁶⁶ See Ms. Smith, *Gamers: Is Red Shell 'Spyware' Being Used in the Games You Play?*, CSO (June 17, 2018), <https://www.csoonline.com/article/565668/gamers-is-red-shell-spyware-being-used-in-the-games-you-play.html> [perma.cc/48K2-A3Y3] (highlighting user distrust of tracking software than can also be used for spying).

³⁶⁷ Cf. *Parental Controls for Video Games*, ENT. SOFTWARE RATING BD., <https://www.esrb.org/tools-for-parents/parental-controls/#how-can-i-make-sure-my-kids-dont-spend-money-on-new-games-or-in-game-purchases> [perma.cc/6GTN-EYDW] (showing what parental controls are available on various video game devices) (last accessed Jan. 16m 2025).

³⁶⁸ *Id.*

³⁶⁹ A. Guttman, *Percentage of Parents Placing Limits on Children's Media Consumption in the United States in 2019 and 2020*, by Medium, STATISTA (Jan. 9, 2023), <https://www.statista.com/statistics/232345/parental-control-over-childrens-media-consumption-in-the-us/> [perma.cc/59W5-Q47Q].

³⁷⁰ Cf. Pamela Rutledge, *How & Why to Use Parental Controls in Video Games*, CYBERWISE (Nov. 25, 2023), <https://www.cyberwise.org/post/how-why-to-use-parental-controls-in-video-games> [perma.cc/MR3U-7QSJ] (arguing that most parents do not know how to use parental controls).

³⁷¹ *Online Safety*, NEMOURS KIDSHEALTH (medically reviewed Aug. 2022), <https://kidshealth.org/en/parents/net-safety.html> [perma.cc/Z5NX-886J].

on the device makers for implementation and enforcement, something the device makers certainly do not wish to bear and would lobby against.³⁷²

[107] Rather than targeting possible harms to vulnerable populations, another alternative would be to target the vulnerable populations directly.³⁷³ When a game company identifies an individual who is experiencing symptoms of addiction or other abnormal behavior, company policy could be switched to require them to report it to the requisite government agency.³⁷⁴ Additionally, companies could take other steps in tandem, such as disabling payment or access to the game.³⁷⁵ While detecting these individuals may not be perfect, it would be preferable to the current counterfactual (no detection at all).³⁷⁶ This detection would likely improve over time with artificial intelligence analysis of companies' vast user data,

³⁷² Cristiano Lima-Strong & Cat Zakrweski, *Big Tech-Funded Groups Try to Kill Bills to Protect Children Online*, WASH. POST (May 3, 2023, 7:00 AM), <https://www.washingtonpost.com/technology/2023/05/03/big-tech-lobby-children-safety/> [perma.cc/U53T-7C77] (last accessed Jan. 16, 2025).

³⁷³ See Cam Adair, *Should Gaming Companies Be Held Responsible for Gaming Addiction?*, GAME QUITTERS BLOG, <https://gamequitters.com/should-gaming-companies-be-held-responsible-for-gaming-addiction/> [perma.cc/LT99-MFGT] (explaining how gaming companies can guide potentially addicted gamers).

³⁷⁴ See generally Orsolya Király et al., *Policy Responses to Problematic Video Game Use: A Systematic Review of Current Measures and Future Possibilities*, J. BEHAV. ADDICTION 7(3), 503 (Aug. 31, 2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6426392/> [perma.cc/QY8A-KQRQ].

³⁷⁵ See generally Ron Kerbs, *The Responsibility of Video Game Developers in Keeping Kids Safe While Gaming Online*, TECHSPECTIVE (Apr. 11, 2023), <https://techspective.net/2023/04/11/the-responsibility-of-video-game-developers-in-keeping-kids-safe-while-gaming-online/> [perma.cc/8Z2K-EXWP].

³⁷⁶ *Id.*

given their current ability to identify certain groups of gamers.³⁷⁷ Various jurisdictions already have mandatory reporting requirements for vulnerable populations.³⁷⁸ While reporting requirements are often predicated on the reporter having a duty of care, game companies arguably should at least have some level of these requirements, given the benefits they derive from the use of their game by gamers.³⁷⁹

[108] In addition to targeting vulnerable populations, regulators could also implement an approach targeting the promotion of harmful behavior.³⁸⁰ The activity could be directly restricted, but this may not be effective and have unintended consequences, as the Eighteenth Amendment demonstrated.³⁸¹ A better alternative may be to impose an excise tax³⁸² on behavior considered detrimental or harmful³⁸³ while simultaneously raising tax

³⁷⁷ See Alex Walker, *Someone Spent Over \$150,000 in Microtransactions on a Transformers Game*, KOTAKU (Oct. 14, 2019), <https://kotaku.com/someone-spent-over-150-000-in-microtransactions-on-a-t-1839040151> [perma.cc/6U45-T8ZM] (describing high accuracy AI for identifying high spenders).

³⁷⁸ Richard Thomas & Monique Reeves, *Mandatory Reporting Laws*, NAT'L LIBR. MEDICINE, <https://www.ncbi.nlm.nih.gov/books/NBK560690/> [perma.cc/YE9Q-4QWC] (July 10, 2023).

³⁷⁹ See Celia Hodent, *Ethics in the Videogame Industry: A Mythbusting and Scientific Approach*, CELIA HODENT (Dec. 18, 2019), <https://celiahodent.com/ethics-in-the-videogame-industry/> [perma.cc/BZC5-N7C4].

³⁸⁰ See *id.*

³⁸¹ See Michael Lerner, *Unintended Consequences of Prohibition*, PBS, <https://www.pbs.org/kenburns/prohibition/unintended-consequences> [perma.cc/JQU7-9W95] (last accessed Jan. 13, 2024).

³⁸² See J. Fred Giertz, *Excise Taxes*, U. ILL.: ENCYCLOPEDIA TAX'N & TAX POL'Y (Oct. 5, 1999), <https://www.urban.org/sites/default/files/publication/71071/1000527-Excise-Taxes.PDF> [perma.cc/9ALX-QCZJ] (explaining the rationales and effects of imposing an excise tax).

³⁸³ See *id.*

revenue. For video games, this would include imposing a tax on game companies advertising in such a manner and content creators promoting harmful behavior.³⁸⁴ Though, even without a specific excise tax, there are already strong legal justifications on the imposition of taxes.³⁸⁵

[109] Starting with promotion by game companies, this often takes the form of providing free premium currency or loot boxes to creators making content for their games.³⁸⁶ There are multiple benefits to do so.³⁸⁷ Not only does this result in lower costs than providing payment in legal tender, but it also ensures that creators perform activities in the game and make content from it to utilize their disbursement.³⁸⁸ A company doing this is also almost certainly committing multiple counts of tax evasion.³⁸⁹ Since the game company is providing this currency because of the creator's promotion of their game, this is structured as income for compensation of services,³⁹⁰ which has mandated reporting for values above \$600.³⁹¹ This structure is

³⁸⁴ *See id.*

³⁸⁵ *See Why do I Have to Pay Taxes?*, IRS (2023), <https://www.irs.gov/pub/irs-pdf/p2105.pdf> [perma.cc/4VFV-YCZW].

³⁸⁶ *See J. Clement, Gaming Monetization – Statistics & Facts*, STATISTA (June 5, 2024), <https://www.statista.com/topics/3436/gaming-monetization/#topicOverview> [perma.cc/F3LB-DN8G].

³⁸⁷ *See Ishaq Ali, Monetization Methods in Free-to-Play Games and Their Pros and Cons*, IXIE (Oct. 10, 2023) <https://www.ixiegaming.com/blog/pros-and-cons-of-monetization-in-ftp-games/> [perma.cc/5CSP-EQRW].

³⁸⁸ *See id.*

³⁸⁹ *See The Difference Between Tax Avoidance and Tax Evasion*, IRS, https://apps.irs.gov/app/understandingTaxes/whys/thm01/les03/media/ws_ans_thm01_les03.pdf [perma.cc/P8XN-P5RK] (last accessed Jan. 16, 2025).

³⁹⁰ I.R.C. § 61.

³⁹¹ I.R.C. § 6041(a).

the case when no monetary transaction occurs.³⁹² While the IRS may have indicated limitations on the taxation of certain virtual currency transactions,³⁹³ this is not the case when it is done for payment of goods or services.³⁹⁴ The game company possibly commits two counts of tax fraud with this setup.³⁹⁵ They are not reporting taxable income on the exchange, nor sales tax³⁹⁶ that would occur from the transaction of services. They are committing a third count if they further write off the cost of the premium currency as a “paper deduction” since it is essentially costless for them to generate this premium currency, and especially when the currency is not reported as income.³⁹⁷

[110] Moving onto alternatives targeting creators themselves, they are likely taking a deduction of any money they spend in a game.³⁹⁸ If creators

³⁹² See *Topic No. 420, Bartering Income*, IRS, <https://www.irs.gov/taxtopics/tc420> [perma.cc/T6TH-RGN3] (last accessed June 12, 2024).

³⁹³ See Jay Peters, *IRS Backtracks on Whether Video Game Currencies Are Taxable*, VERGE, <https://www.theverge.com/2020/2/13/21137045/irs-provision-virtual-currency-tax-returns-fortnite-v-bucks> [perma.cc/R5LM-SSUM] (Feb. 14, 2020, 3:34 PM).

³⁹⁴ See *Notice 2014-21*, IRS, <https://www.irs.gov/pub/irs-drop/n-14-21.pdf> [perma.cc/V2Y5-SGSQ].

³⁹⁵ See generally *The Difference Between Tax Avoidance and Tax Evasion*, *supra* note 389.

³⁹⁶ See *What Is the Difference Between Sales Tax and Use Tax?*, SALES TAX INST., https://www.salestaxinstitute.com/sales_tax_faqs/the_difference_between_sales_tax_and_use_tax [perma.cc/FVR6-5BLA] (last accessed Jan. 16, 2025).

³⁹⁷ See *Tax Avoidance Is Legal; Tax Evasion Is Criminal*, WOLTERS KLUWER, <https://www.wolterskluwer.com/en/expert-insights/tax-avoidance-is-legal-tax-evasion-is-criminal> [perma.cc/2C3H-R7QB] (Apr. 12, 2024).

³⁹⁸ Juan Rodriguez, *7 Business Expenses Streamers Should Consider Claiming*, SIDEKICK, <https://efuse.gg/sidekick/resources/business-expenses-streamers-should-claim> [perma.cc/JWJ5-5TYU] (last accessed Jan. 16, 2025).

were prevented from taking this deduction, then more creators would likely create content that encourages or utilizes no expenditure.³⁹⁹ This is because creating content that encourages large expenditures (such as opening many loot boxes at once) would incur an additional cost, and they would need to expect a larger payout for it to be economically worthwhile.⁴⁰⁰ Business expenses need to be ordinary and necessary to be deductible.⁴⁰¹ While almost all expenses meet the requirement for necessity,⁴⁰² there is less of an argument that they are ordinary⁴⁰³ given the large proportion of gamers who do not spend money.⁴⁰⁴ Furthermore, even if these expenses are considered ordinary and necessary as business expenses, there is a further argument that they are almost always actually personal expenses⁴⁰⁵ or a mix of both. A mix of personal and business expenses cannot be deducted,⁴⁰⁶ and it should be a *prima facie*⁴⁰⁷ assumption that any expenditure in video games

³⁹⁹ Clive Thompson, *Capitalism Is Ruining Video Games*, MOTHERJONES (2023), <https://www.motherjones.com/media/2023/04/asphalt-video-games-microtransactions-loot-boxes-in-game-purchases-capitalism/> [perma.cc/R5WP-JR6R].

⁴⁰⁰ See Wen Li et al., *The Relationship of Loot Box Purchases to Problem Video Gaming and Problem Gambling*, 97 ADDICTIVE BEHAVS. 27, 28 (2019) (discussing how having the ability to purchase loot boxes could result in problem gambling).

⁴⁰¹ I.R.C. § 162(a).

⁴⁰² See INTERNAL REVENUE SERV., U.S. DEP'T TREASURY, PUB. NO. 535, BUS. EXPENSES 3 (2023).

⁴⁰³ *Id.*

⁴⁰⁴ *Study: Only 2.2% of Free-to-Play Mobile Users Actually Pay*, *supra* note 361.

⁴⁰⁵ See *Commingling: The Dangers of Mixing Business and Personal Expenses*, TAX DEF. NETWORK, <https://www.taxdefensenetwork.com/blog/the-dangers-of-mixing-business-and-personal-expenses/> [perma.cc/8UUC-A6LZ] (Oct. 26, 2023).

⁴⁰⁶ See *id.*

⁴⁰⁷ See *Prima Facie*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/prima_facie [perma.cc/QSV9-65W5] (last updated Jan. 2024).

is at least partly personal in nature. These expenditures provide personal utility to gamers, particularly if they utilize the game outside of their content creation.⁴⁰⁸ Thus, there are substantive legal grounds to tax the behavior of game companies and creators even without a separately structured excise tax, which may be desirable as well.⁴⁰⁹ The author believes that the Internal Revenue Service would be happy to have an additional source of tax revenue, particularly if the amount is easily traceable with video game transactions on a game company's servers⁴¹⁰ and that this is a feasible avenue of regulation to approach.⁴¹¹

[111] The solutions proposed here would likely face difficulty with legislative viability and regulatory implementation, and even then, would almost certainly not prevent all problematic cases.⁴¹² Unless the societal optimal level of loot boxes is at zero (which is probably not the case due to their possible benefits), regulation should be aimed at reducing harm

⁴⁰⁸ See generally Bill, *Write Offs in a Game Dev World*, GAMEDEV BILL (Aug. 20, 2019), <https://gamedevbill.com/write-offs-in-a-game-dev-world/> [perma.cc/2MCX-FNZ6].

⁴⁰⁹ See generally Ioana Grigorescu, *Sales Tax: What Indie Game Developers Need to Know*, PAYPRO GLOBAL, <https://blog.payproglobal.com/sales-tax-for-indie-game-developers> [perma.cc/D63S-QKBT] (Sept. 16, 2024).

⁴¹⁰ See Marie Fayard, *Gaming Industry: How Important Are Logs for Systems?*, CORALOGIX (Apr. 25, 2023), <https://coralogix.com/blog/systems-log/> [perma.cc/VMH6-B6P8].

⁴¹¹ See *id.*; The author has reported activities of these natures to the IRS, who have chosen not to pursue them. While this may be because the agency may not have the personnel to pursue these claims, this may indicate some level of disagreement from the IRS on the author's assertions. The author believes, however, that the IRS is incorrect in their interpretation of the relevant tax law.

⁴¹² Macey, *supra* note 357.

contextually.⁴¹³ It would be logically incoherent to assert otherwise.⁴¹⁴ Especially in comparison to items that arguably cause more harm than benefits, such as firearms, where courts have struck down restrictions.⁴¹⁵ Albeit this example having an explicit constitutional protection, unlike loot boxes (which may have constitutional protection nevertheless),⁴¹⁶ it is questionable how expansive that right is.⁴¹⁷

[112] Yet outside of specific vulnerable populations, the government may have a compelling interest in mitigating general loot box harms.⁴¹⁸ Rather than making loot box purchases more difficult, the goal would for consumers to be better informed about purchase decisions. The main area of concern would be ensuring that users actually receive what they are told they will receive, as well as providing a remedy otherwise. One method of ensuring this would be giving such consumers more information.⁴¹⁹ Rate

⁴¹³ *See id.*

⁴¹⁴ *See id.*

⁴¹⁵ *See* Associated Press, *The Supreme Court Takes Up Case That Again Tests Limits of Gun Rights*, VOA (Nov. 7, 2023, 1:42 AM), <https://www.voanews.com/a/the-supreme-court-takes-up-case-that-again-tests-limits-of-gun-rights/7344701.html> [perma.cc/P798-GMCQ].

⁴¹⁶ *See* Sinclair, *supra* note 306.

⁴¹⁷ *See* Nelson Lund & Adam Winkler, *The Second Amendment: Common Interpretation*, NAT'L CONST. CTR., <https://constitutioncenter.org/the-constitution/amendments/amendment-ii/interpretations/99> [perma.cc/Z6FR-JST5] (last accessed Jan. 16, 2025).

⁴¹⁸ *See* S. 1629, 116th Cong. § 1 (2019).

⁴¹⁹ Leon Y. Xiao et al., *What Are the Odds? Poor Compliance with UK Loot Box Probability Disclosure Industry Self-Regulation*, PLOS ONE (Sept. 27, 2023), <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0286681> [perma.cc/4ATC-GYHV].

disclosures, including those required by Google⁴²⁰ and Apple⁴²¹ on their app stores, help accomplish this but are insufficient individually.⁴²² One concern would be that the games place information in difficult-to-access or unobvious locations, resulting in players not making use of all available information for decision-making.⁴²³

[113] Another concern is that information may be too complicated for an unsophisticated consumer to fully rationalize.⁴²⁴ There is evidence that people struggle to understand even simple probabilities,⁴²⁵ so having even a nonstandard decimal rate may make it hard for gamers to calculate the expected value.⁴²⁶ Not to mention the greater difficulty when loot boxes contain more complicated mechanisms, such as dynamically altered rates and item lists.⁴²⁷ Rather than putting the onus on the user, this could be required of the game instead.⁴²⁸ For example, regulators could mandate that the game must provide the rate for any specific loot box or bundle purchased prominently on the confirmation screen.⁴²⁹ This regulatory method would provide users with direct information on their immediate

⁴²⁰ Plassaras, *supra* note 123.

⁴²¹ Gartenberg, *supra* note 124.

⁴²² Xiao et. al, *supra* note 419.

⁴²³ *See* Cakebread, *supra* note 283.

⁴²⁴ *See* Cakebread, *supra* note 283.

⁴²⁵ *See* Stephen Gossett, *Bad at Probability? Blame Human Psychology.*, BUILT IN (Sept. 15, 2020), <https://builtin.com/data-science/probability> [perma.cc/23PU-JT3F].

⁴²⁶ *See id.*

⁴²⁷ *See id.*

⁴²⁸ *See* Vance, *supra* note 11.

⁴²⁹ *See* Vance, *supra* note 11.

possible outcomes, rather than requiring their own, possibly mistake-prone calculations.⁴³⁰ A display of remaining loot boxes until pity on the opening page is another easily understood method of providing information.⁴³¹ Neither proposed solution would be without issue, though. If a game has a complex system of item rarities, then displaying rates directly on the confirmation page could either result in clutter or risk excluding important information if simplified.⁴³² Consequently, having the pity mechanism displayed prominently could again encourage spending by users who target that number.⁴³³

[114] Another proposition could include direct government intervention in rate setting.⁴³⁴ Having an unchanging fixed rate for every loot box with a pity makes decisions much more straightforward from the lower information requirements.⁴³⁵ However, that level of specific direct intervention may be seen as overreaching and infringing on a company's rights⁴³⁶ and will almost certainly receive heavy industry pushback. This pushback on direct intervention is especially true when gambling regulation

⁴³⁰ See Vance, *supra* note 11.

⁴³¹ See Leon Y. Xiao et al., *Opening Pandora's Loot Box: Weak Links Between Gambling and Loot Box Expenditure in China, and Player Opinions on Probability Disclosures and Pity-Timers*, 39 J. GAMBLING STUD. 645, 655 (2023).

⁴³² See Libby Sander, *What Does Clutter Do to Your Brain and Body?*, NEWSGP (Jan. 25, 2019), <https://www1.racgp.org.au/newsgp/clinical/what-does-clutter-do-to-your-brain-and-body> [perma.cc/77NQ-8PDJ] (discussing the effect of clutter on behavior).

⁴³³ Li, *supra* note 346.

⁴³⁴ See Alan Gonzalez, *The Growing Issue of Unregulated Gambling: Loot Boxes*, FLA. STATE U. COLL. LAW (2023), <https://law.fsu.edu/growing-issue-unregulated-gambling-loot-boxes> [perma.cc/WD6F-93MJ].

⁴³⁵ See Xiao et. al, *supra* note 431.

⁴³⁶ Sinclair, *supra* note 306.

requirements on slot machines are comparably less strict.⁴³⁷ It may be difficult to justify that level of direct government intervention as not excessive. After all, individuals have different preferences that determine their valuation of goods and services. Perhaps the set-up of a game makes it incredibly difficult to obtain a good status without spending money. There is nothing inherently wrong with that. The user may only have three options available: perform well and get lucky (front door), spend a lot of money to get what they want (back door), or hack the game (side door).⁴³⁸ If loot box rates are sufficiently unsatisfactory, then users will not have the requisite valuation to play the game.⁴³⁹ Take college admissions as an example: perform well and get lucky (front door), have a family member make a sizeable donation (back door), or cheat one's credentials (side door).⁴⁴⁰ In spite of these restrictions, a record number⁴⁴¹ of people still apply to college each year due to their perceived value for it.

⁴³⁷ See generally *Slot Machine Payback Statistics*, AMERICAN CASINO GUIDES, <https://www.americancasinoguide.com/info/slot-machine-payback-statistics> [perma.cc/WFL9-AKAP] (demonstrating that rates vary for slot machines) (last accessed Jan. 16, 2025).

⁴³⁸ See Gonzalez, *supra* note 434 (detailing various countries' difficult experiences regulating loot boxes).

⁴³⁹ See, e.g., John J. Chung, *Loot Boxes May Exploit Gamers, but Their Sale Does Not Constitute Unlawful Gambling*, 29 ROGER WILLIAMS U. L. REV. 110, 121–24 (2024) (likening loot boxes to purchasing baseball cards without knowing the true value of the cards in the deck).

⁴⁴⁰ See, e.g., Xinrou Shu, *Buying 'Guaranteed Acceptance' to Elite US Universities: The Risks and Rewards for Chinese Students*, S. CHINA MORNING POST, <https://www.scmp.com/magazines/post-magazine/long-reads/article/3201835/buying-guaranteed-acceptance-elite-us-universities-risks-and-rewards-chinese-students> [perma.cc/AR4Q-CPSU] (July 5, 2023, 11:33 AM) (explaining a trend in people overseas buying admissions into American universities).

⁴⁴¹ See Michael T. Nietzel, *College Applications Are Up Dramatically in 2023*, FORBES, <https://www.forbes.com/sites/michaelt Nietzel/2023/03/30/college-applications-are-up-dramatically-in-2023/?sh=487f77369c4d> [perma.cc/QT27-RJUY] (Mar. 30, 2023, 3:19 PM) (showing a substantial increase in college applications in 2023).

[115] Rather than directly interfering with individual loot box rate settings, targeting the receipt of items may be more effective.⁴⁴² Regulation could accomplish this by mandating that a game provide an expected value amount for each item, to inform users.⁴⁴³ For example, a one-per-one-hundred expected value⁴⁴⁴ would mean expecting to see a single copy of that item in every 100 loot boxes regardless of how the rate dynamically changes.⁴⁴⁵ This regulation would not necessarily accomplish anything by itself due to random variation in outcomes, but could if implemented in tandem with a long-run guarantee of expected value.⁴⁴⁶ For example, with the one-in-a-hundred expected value, it would be further guaranteed that one thousand loot boxes contain exactly ten copies of that item, no more and no less. But this regulation would ensure that chance is purely short-term, and that long-run advertised values would behave exactly as stated.⁴⁴⁷

⁴⁴² See Leon Y. Xiao, *Beneath the Label: Unsatisfactory Compliance with ESRB, PEGI and IARC Industry Self-Regulation Requiring Loot Box Presence Warning Labels by Video Game Companies*, ROYAL SOC'Y OPEN SCI. (Mar. 29, 2023), <https://royalsocietypublishing.org/doi/10.1098/rsos.230270> [perma.cc/RTQ5-7XZC].

⁴⁴³ See Gonzalez, *supra* note 434 (noting China's regulations requiring "the probability of receiving the prizes in loot boxes be published, established daily purchase limits, and reward probability must gradually increase in the player's favor as they purchase more loot boxes").

⁴⁴⁴ See *Expected Value (Basic)*, KHAN ACAD., <https://www.khanacademy.org/math/statistics-probability/random-variables-stats-library/random-variables-discrete/a/expected-value-basic> [perma.cc/4JMV-7CK8] (last accessed Jan. 13, 2024).

⁴⁴⁵ *Id.*

⁴⁴⁶ *Id.*

⁴⁴⁷ *Id.*

[116] This type of regulation would make recovery from harms more feasible as well.⁴⁴⁸ Without any guarantee of expected outcomes, a user may have the burden of showing direct evidence that a company manipulated rates or otherwise engaged in breach of stated terms.⁴⁴⁹ By guaranteeing a specific acquisition amount long-term, a player could easily show that their receipt deviates from what is contractually obligated, setting up a prima facie case of misrepresentation⁴⁵⁰ or fraud.⁴⁵¹ Remedies are easily assessed here as well since the deviation from the required amount would be known, and the deviation could be converted into a monetary value.⁴⁵² However, this may not adequately protect non-spenders or low-spenders, as the former has no monetary loss, and the latter may have a larger deviation than total monetary expenditure.⁴⁵³ Yet, these users would still have direct evidence of improper conduct. They might have greater success seeking punitive damages⁴⁵⁴ by arguing egregious conduct, and companies may avoid

⁴⁴⁸ *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560 (1992) (requiring an alleged injury to be concrete and particularized).

⁴⁴⁹ *See, e.g., Mai v. Supercell Oy*, No. 23-15144, 2024 U.S. App. LEXIS 11317, at *4 (9th Cir. May 9, 2024) (holding no injury-in-fact); *Taylor v. Apple, Inc.*, No. 20-cv-03906-RS, 2021 U.S. Dist. LEXIS 265916, at *14 (N.D. Cal. Mar. 19, 2021) (holding no injury-in-fact).

⁴⁵⁰ *Misrepresentation*, *supra* note 273.

⁴⁵¹ *See Fraud*, LEGAL INFO. INST., <https://www.law.cornell.edu/wex/fraud> [perma.cc/P7BY-YASY] (last accessed Jan. 13, 2024).

⁴⁵² *See Actual Damages*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/actual_damages [perma.cc/3J5J-LBUC] (last accessed Sept. 14, 2024).

⁴⁵³ *See Christy Bieber, What Are Actual Damages?*, FORBES, <https://www.forbes.com/advisor/legal/personal-injury/actual-damages/> [perma.cc/P496-XKN9] (Apr. 7, 2023, 2:58 AM).

⁴⁵⁴ *See Belle Wong, What Are Punitive Damages? Definition & Examples*, FORBES, <https://www.forbes.com/advisor/legal/personal-injury/punitive-damages/> [perma.cc/3UL4-PMFB] (May 31, 2024, 4:07 AM).

creating evidence of this type on user accounts due to associated reputational risks.⁴⁵⁵

[117] Of course, this system is not also without issues (aside from general concerns of industry pushback or legislative standstill).⁴⁵⁶ For a user to know whether their acquisition outcomes deviate from the expected value, they will need the entirety of their historical loot box opening records.⁴⁵⁷ Understanding the deviation from the expected value would mean user record retention would also need enforcement.⁴⁵⁸ While storing this information is likely not cost-prohibitive (especially if it can be deleted once a user becomes inactive long enough), there is always the possibility that game companies could falsify this data. Particularly the more temporally-removed entries, as human memory fades.⁴⁵⁹ While companies may not wish to risk legal ramifications, their probability of detection⁴⁶⁰ would be exceedingly low, just as when they manipulate rates.

⁴⁵⁵ See Dilip N, *Impact of Lawsuits and Litigation on Brand Image*, SUPPLY WISDOM (Aug. 11, 2017), <https://www.supplywisdom.com/resources/impact-of-lawsuits-and-litigation-on-brand-image> [perma.cc/J9Z8-8SUD].

⁴⁵⁶ See Gonzalez, *supra* note 434.

⁴⁵⁷ See Will Kenton, *Expected Value: Definition, Formula, and Examples*, INVESTOPEDIA, <https://www.investopedia.com/terms/e/expected-value.asp#:~:text=By%20calculating%20EVs%2C%20investors%20can,summing%20all%20of%20those%20values> [perma.cc/P4U3-6GWF] (May 30, 2024).

⁴⁵⁸ See *Navigating the Regulatory Maze*, *supra* note 267.

⁴⁵⁹ See Nicola Davis, *Human Memory May Be Unreliable After Just a Few Seconds, Scientists Find*, GUARDIAN (Apr. 5, 2023, 2:00 PM), <https://www.theguardian.com/science/2023/apr/05/short-term-memory-illusions-study> [perma.cc/23CW-2AAN].

⁴⁶⁰ See Peter Grossman et al., *Uncertainty, Insurance and the Learned Hand Formula*, 5 L., PROBABILITY & RISK 1, 1 (2007) (discussing the Learned Hand formula used to model behavior for wrongful conduct depends on detection probability).

[118] Furthermore, there is also the question of the scale for any guarantee. Having it too large would result in poor coverage of harmed individuals while making it too small would functionally eliminate chance entirely.⁴⁶¹ A good starting consideration for regulators may be how many loot boxes the yearly-acquired free premium currency can open. This starting point would strike a balance between encouragement of long-term play and a suitable expenditure threshold, though this would vary by game and need to be contextually assessed.⁴⁶² Such a policy may also encourage game companies to make complicated rarity tables and loot box structures to meet this “quota” with undesirable items.⁴⁶³

[119] Irrespective of game conditions, there may be interest in allowing gamers to seamlessly transition into discontinuing play.⁴⁶⁴ As mentioned previously, users will often have residual resources in a game, encouraging them from quitting even when they no longer derive the requisite utility to continue playing.⁴⁶⁵ While encouraging game asset transfer that may violate the ToS⁴⁶⁶ would not be the goal (or could be if the government anticipates

⁴⁶¹ See UNIV. COPENHAGEN, *Study Reveals Concerns Over Loot Box Probability Disclosure Transparency in Video Games*, TECH XPLORE (June 15, 2023), <https://techxplore.com/news/2023-06-reveals-loot-probability-disclosure-transparency.html> [perma.cc/F9DV-4KAR].

⁴⁶² See Scott Van Voorhis, *The \$15 Billion Question: Have Loot Boxes Turned Video Gaming into Gambling?*, HARV. BUS. SCH. (Apr. 21, 2023), <https://hbswk.hbs.edu/item/the-15-billion-question-have-loot-boxes-turned-video-gaming-into-gambling> [perma.cc/XL6T-TWDT].

⁴⁶³ See Macey, *supra* note 357.

⁴⁶⁴ See Macey, *supra* note 357.

⁴⁶⁵ See Wolf, *Don't Buy Accounts!*, RIOT GAMES: LEAGUE LEGENDS (Sept. 14, 2023), <https://support-leagueoflegends.riotgames.com/hc/en-us/articles/202290340-Don-t-Buy-Accounts> [perma.cc/757G-UX3L].

⁴⁶⁶ See *Digital Assets*, IRS, <https://www.irs.gov/businesses/small-businesses-self-employed/digital-assets> [perma.cc/S9XJ-P8QS] (last updated Nov. 29, 2024).

tax revenue from doing so),⁴⁶⁷ allowing users to recover unspent monetary expenditures in the game may be desired. Games often already refund monetary expenditures when terminating service.⁴⁶⁸

[120] Now, an unconditional refund would be excessive and almost certainly against the ToS the user agrees to. Regardless, even a conditional refund could violate ToS and face heavy industry opposition, but it would likely be more palatable. By restricting this refund to any purchased premium currency that remains on the account followed by permanent account termination, the refunds would be limited to a single reversion transaction per account. Gamers sometimes already refund as many purchases as possible when quitting a game, leaving the company with no recourse outside of terminating that account.⁴⁶⁹ This regulatory option simply formalizes the process. Of course, this would require the separation of free and paid premium currency in-game. Not to mention, the expenditures for premium currency (such as paid expenditure first, free expenditure first, or first in first out)⁴⁷⁰ would affect how often this system is employed and its efficacy.⁴⁷¹

⁴⁶⁷ *When Are Products Eligible for a Refund?*, EPIC GAMES, https://www.epicgames.com/help/en-US/c-Category_BillingSupport/c-EpicGamesStore/when-are-products-eligible-for-a-refund-a000085014#:~:text=Games%20and%20products%20are%20eligible,hours%20of%20runtime%20on%20record [perma.cc/N2FG-7XHU] (last accessed Jan. 16, 2025).

⁴⁶⁸ *Common Refund Questions*, STEAM, <https://help.steampowered.com/en/faqs/view/5FDE-BA65-ACCE-A411#:~:text=Is%20there%20a%20limit%20to, revoke%20access%20to%20this%20feature> [perma.cc/4KX4-TWLQ] (last accessed Jan. 16, 2025).

⁴⁶⁹ Will Kenton, *The FIFO Method: First In, First Out*, INVESTOPEDIA, <https://www.investopedia.com/terms/f/fifo.asp> [perma.cc/X3PJ-QXUW] (Sept. 19, 2024).

⁴⁷⁰ *Id.*

[121] From the preceding discussion, it should be apparent that loot box regulation is neither simple nor straightforward.⁴⁷² Any proposed regulation would almost certainly experience intense lobbying and legislative hurdles and may not pass legal scrutiny.⁴⁷³ And even if regulation goes through, there is no guarantee that it will do more good than harm, as any effective regulation must consider the perspectives of those affected.⁴⁷⁴ It may be that regulation on gamers will have to be made by gamers; however, gamers does not mean the game industry or a narrow, unrepresentative set of them with legal training, but rather a more wholistic representation.⁴⁷⁵

CONCLUSION

[122] The scale and degree at which loot boxes expose individuals to possible harm necessitates their regulation. Until gamers can behave rationally, the law must step in. To ensure that regulation is not eroding loot box benefits to a higher degree than harm reduction, any consideration of such regulations must be made wholistically in the wider environment where they operate. This paper has taken a novel approach when considering the effects of regulatory impact on loot boxes by proposing and

⁴⁷¹ See generally Matthew McCaffrey, *The Macro Problem of Microtransactions: The Self-Regulatory Challenges of Video Game Loot Boxes*, SCI. DIRECT (2019), <https://www.sciencedirect.com/science/article/pii/S0007681319300345#sec0015> [perma.cc/L5MF-5A8N].

⁴⁷² *Id.*

⁴⁷³ *Id.*

⁴⁷⁴ See *Diversity and Representation in Gaming*, GOODMAN LANTERN, <https://goodmanlantern.com/whitepaper/diversity-and-representation-in-gaming/#positive-effects-on-the-gaming> [perma.cc/2YSW-X99E] (last accessed Jan. 16, 2025).

analyzing a broader population and set of circumstances. Thus, while the author does not purport to have solved the problem of loot boxes, he hopes that his contributions will be beneficial to conversations attempting to do so.