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Loot Box Regulation in New South Wales, Australia: Consideration of Regulation through Lessig's Four Modalities of Constraint

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Abstract:

The widespread adoption of the internet in Australia has transformed digital interactions, particularly within the gaming industry, where loot boxes have emerged as a prominent monetization model. This paper explores the controversial nature of loot boxes, focusing on their “pay-to-win” implications and their resemblance to gambling, especially concerning minors. By examining Lessig’s four modalities of constraint—law, social norms, markets, and architecture—this study evaluates how these frameworks have been applied in New South Wales (NSW) and across Australia to regulate loot boxes. Despite limited legal action at both state and federal levels, this paper highlights recent regulatory developments, such as new classification guidelines for video games with gambling-like content. The study further explores the social and market dynamics influencing loot box consumption and discusses the potential for architectural interventions to mitigate associated harms. The paper argues for a more comprehensive regulatory approach in NSW that acknowledges the gambling-like risks posed by loot boxes, particularly to vulnerable populations.

Keywords:

consumer protection, digital technologies, gambling, gaming industry, law, licensing, regulation, Loot box, video games, virtual goods, cyberspace

Introduction

The availability of the internet has had a near universal impact on the daily lives of Australians (ACMA, 2022). Internet penetration currently stands at 96.2%,¹ with 92.2% of Australians aged 16 and 64 owning a smart phone² and spending an average of 5 hours and 51 minutes on the internet per day.³ The internet has therefore become a prominent and readily accessible cyberspace ‘community’ in which Australians live their ‘second life’ (Lessig, 2006).

Previously, game titles were sold as a standalone product involving a single transaction between the consumer and developer (Environment and Communications References Committee, 2018). The evolution of the industry’s monetization models has resulted in the proliferation of loot boxes (also referred to as loot crates or gachas) in both desktop and mobile video games, including those marketed to children (Pour, 2024).

The concept of loot boxes has been controversial both in and outside the gaming community. The basis for this controversy typically takes two forms:

- 1) **‘Pay2win’ concerns:** the perception that players willing to spend disposable income on loot boxes had a greater likelihood of becoming more competent at the game through the acquisition of better or stronger in-game items (Lemmens, 2022).
- 2) **Simulated-gambling nature of loot boxes:** Gambling-like behaviors documented in relation to loot boxes suggests policy response should resemble those in place for traditional gambling (Pour, 2024; Hing et al., 2023; Primi, 2022; Drummond et al., 2022; Zendle & Cairns, 2019).

1- Kemp, S. (2023, February 9). ‘Digital 2023: Australia’. DataReportal. <https://datareportal.com/reports/digital-2023-australia>, slide 17.

2- Ibid. Slide 25.

3- Ibid. Slide 32.

This paper considers the extent to which Lessig's four modalities of constraint has been used in NSW to regulate loot boxes to date and future options for regulation through these modalities. By virtue of Australia's system of federalism, this paper will consider the modalities in relation to both the New South Wales (NSW) provincial and the federal (Commonwealth) frameworks of government.

Loot boxes as a business model

Loot boxes are defined as any in-game mechanism in which a randomized, game-related item can be obtained from a virtual box (Drummond & Sauer, 2018). Loot box mechanics use psychological principles such as operant conditioning (Staddon & Cerutti, 2003), variable-ratio scheduling (Zuriff, 1970) and material distortion (Petrovskaya & Zendle, 2021) to increase engagement and satisfaction among players in the same manner as traditional forms of gambling. The impact on individuals who engage with loot boxes can therefore lead to addictive behaviours or the normalization of gambling-like tendencies (Pour, 2024).

Loot box mechanics are also highly targeted towards minors, who may be less capable of understanding the implications of spending real money or the negative effects of gambling (Pour, 2024). Analysis by Zendle et al. (2020) shows that of the top 50 most played games on the Steam platform that contained loot boxes, 43% were classified as suitable for children aged 12+; for mobile platforms, 93% and 94% of the 100 top-grossing games on the Google Play and Apple App stores, respectively, that contained loot boxes were considered suitable for children aged 12+.

Loot boxes are utilized in high-profile titles such as Call of Duty, Counter-Strike, FIFA, Destiny, Valorant and Overwatch (Pour, 2024), with recent research showing that up to 36.5% of Australian adolescents have purchased loot boxes in the past 12 months (Rockloff et al., 2021). This translates to roughly \$10 to \$70 per month on loot boxes (Greer et al., 2022), but sometimes up to \$1,000 per

month (Drummond, 2023). In total, Australians spent \$2.39 billion USD on video games in 2022, representing an 11.9% increase year-on-year.⁴

In NSW, between 24% and 37% of adolescents (12-17) and young adults (18-24) reported purchasing loot boxes in the past 12 months (Hing et al., 2020a; Rockloff et al., 2020; Russell et al., 2020). This means young people in NSW engaged in simulated gambling and purchased loot boxes in the past year more than they engaged in traditional forms of gambling (Rockloff et al., 2020). Of those who purchased loot boxes, the median monthly expenditure was \$50 for adolescents and \$72 for young adults, while sales of loot box rewards, or accounts containing these rewards, netted \$20 per month for adolescents and \$60 per month for young adults (ibid).

Lessig's Four Modalities of Cyberspace Constraint

As our engagement in and with the cyberspace community increases, Lessig (2006) notes that conduct in the cyberspace can be regulated through four modalities of governance. He expounds these four modalities of constraint as follows:

- 1) **Law:** Rules and regulations put in place by governments to direct cyberspace behaviour
- 2) **Social Norms:** Social conventions which individuals and organisations feel obliged to live by
- 3) **Markets:** Economic forces which drive decision making
- 4) **Architecture:** Digital limitations placed on a piece of software of technology

Laws are imposed to regulate and deter undesirable behaviour, and often associate with architecture to implement that deterrence. Lessig (2006) provides the example of the regulation of smoking. In the Australian context, this is achieved by limiting smoking to individuals above the age of 18 (law) and ensuring government identification is checked when purchasing cigarettes (architecture).

4- Ibid. Slide 94.

Smoking may also be socially discouraged because of its impact on surrounding individuals due to second-hand smoke (social norms). The health impacts of cigarettes have also led to the imposition of a sin tax on tobacco products, increasing the purchase price of cigarettes (markets). Lessig argues that these four modalities interact to shape behaviour, and understanding their interplay is crucial for effective regulation and governance.

3.1 Law

Legal regulation of loot boxes in NSW and Australia has historically been notional. In NSW, an ‘unlawful game’ includes ‘any game of skill or chance, or of mixed skill and chance, in which any money is staked or risked by a person on an event or contingency specified by the person in which a person, other than a participant in the game, receives a payment or other benefit from the playing of the game’ (*Unlawful Gambling Act 1998* (NSW) s 5(1)(h)). Liquor and Gaming NSW, the state body responsible for the regulatory framework for liquor, gambling, casinos, wagering, lotteries and registered clubs in NSW,⁵ has previously stated that “Liquor & Gaming NSW does not consider that purchased loot boxes and other chance-based items (which can include a key to unlock a loot box) by themselves constitutes gambling under NSW gambling laws. However, Liquor & Gaming NSW is aware of particular instances where virtual items (being quite often the contents of a loot box) can be monetized outside the game they are featured in. Such instances are likely to offend NSW gambling laws, depending upon the circumstances” (Senate Environment and Communications References Committee, 2018). Notwithstanding this statement, no publicly documented cases of Liquor & Gaming taking enforcement action against loot box mechanics in a video game could be found.

The position is similar at the Commonwealth level. ‘Gambling service’ under the *Interactive Gambling Act 2001* (Cth) includes ‘con-

5- ‘Our role’. Liquor and Gaming NSW. <https://www.liquorandgaming.nsw.gov.au/about-us/our-role>

duct of a game where the game is played for money or anything else of value, the game is a game of chance or of mixed chance and skill, and a customer of the service gives or agrees to give consideration to play or enter the game (s 4, definition of ‘gambling service’). The Australian Communications and Media Authority has explained that online games, including those which contain loot boxes, have not, to date, been regarded as gambling services under the [*Interactive Gambling Act*] “because they are not ‘played for money or anything else of value’, as set out in paragraph (e)(i) of the definition of ‘gambling service’” (Senate Environment and Communications References Committee, 2018). It did, however, acknowledge that “there may be cases where the position may not be so clear, particularly where there is a secondary market for items” (ibid).

NSW and Australian regulatory bodies have therefore opted against regulating loot boxes under existing gambling laws on the basis that the obtainable rewards did not consist of real currency, nor was there a facility or method available to directly convert the rewards obtained into real currency. While this position may have held credence in the early days of loot boxes, it no longer accurately represents the value of in-game items within the gaming ecosystem (Pour, 2024). The ubiquity of buy/swap/sell and skin gambling platforms has created a readily accessible secondary market for these items (Greer et al., 2023). Roughly \$5 billion was wagered in skins in 2016 (Assael, 2017), two years before Liquor & Gaming NSW and ACMA’s statements before the Senate Environment and Communications References Committee in 2018. Of this \$5 billion, roughly 60% was wagered on “casino-style gaming” websites (ibid). An essential move towards imposing effective legal constraints on the distribution of loot boxes would therefore be to adopt a broader, fit-for-purpose statutory interpretation of ‘receiving a payment or other benefit’ from a video game. A broader interpretation acknowledges the widespread presence of skin trading and gambling, many of which offer inducements almost identical to those used by traditional online betting websites (Dean et al., 2017).

Australia has historically been viewed as a free-market nation.⁶ It is therefore unlikely that the NSW or Commonwealth Governments will impose a ban on loot box mechanics. However, recent developments show promise for regulatory action. In May 2023, ACMA mandated the withdrawal of skin gambling website *CS:GO Roll* from Australia after it was found to be providing interactive gambling services in contravention of the *Interactive Gambling Act*.⁷ ACMA acknowledged that “Winnings from *CS:GO Roll* would... be paid out in the form of skins, which could be converted into real money using third-party platforms”.⁸ In September 2023, the Australian Government announced new mandatory minimum classification for computer games containing ‘gambling-like content’ from September 2024.⁹ Updated *Guidelines for the Classification of Computer Games 2023* will require games containing in-game purchases involving elements of chance, such as purchasable loot boxes, to receive a minimum classification of *Mature – not recommended for children under 15 years of age*.¹⁰ Such new standards impose a ‘cost’ on video game developers (Lessig, 2006) which can influence behaviour. By example, the signaling of potential regulation from lawmakers in Japan was enough for developers of ‘complete gacha’ games to self-regulate the mechanic out of their games, citing a preference for industry self-regulation and an expectation that a ban would result in major revenue loss (Pour, 2024). Whether

6- ‘Economic Freedom Country Profile: Australia’ (2023, October). Heritage. <https://www.heritage.org/index/pages/country-pages/australia>

7- ‘ACMA takes action against illegal ‘skins’ gambling site’. (2023, May 17). Australian Communications and Media Authority. <https://www.acma.gov.au/articles/2023-05/acma-takes-action-against-illegal-skins-gambling-site>

8- Ibid.

9- Michelle Rowland. (2023, September 23). ‘New mandatory minimum classifications for gambling-like games content’. <https://minister.infrastructure.gov.au/rowland/media-release/new-mandatory-minimum-classifications-gambling-games-content>

10- (2023, September 26). New mandatory minimum classifications for gambling-like games content. Department of Infrastructure, Transport, Regional Development, Communications and the Arts. <https://www.classification.gov.au/about-us/media-and-news/news/new-mandatory-minimum-classifications-for-gambling-games-content>

such a ‘cost’ is enough to redirect developer behaviour in Australia and, if so, to what extent, is recommended for future discussion.

3.2 Social Norms

Social norms in relation to loot boxes can be observed in two paradigms: 1) norms held among gamers who must endure the implications of pay2win mechanics, and 2) norms held among broader society who bear the impact of the simulated-gambling nature of loot boxes.

3.2.1 Social norms among gamers

Loot box mechanics have historically been admonished by the gaming community. As players regularly interact with in-game transactions, they hold in-depth understanding and nuanced perspectives on when transactions constitute misleading or unfair conduct (Petrovskaya, 2021). Often seen as a malevolent, money-grabbing presence in modern video games,¹¹ loot boxes appear more palatable by gamers where they provide purely cosmetic offerings.¹² Moreover, loot boxes earned purely through in-game currency are seen as a game mechanic.¹³ However, a suite of predatory monetization tactics used in addition to and in conjunction with loot box mechanics which go beyond cosmetic features have been reported by players to be misleading, unfair or aggressive (Petrovskaya, 2021). This includes overreliance on real money expenditure to play the game, large chunks of the game being paywalled, ‘core’ aspects of the game being monetized, and the sale or award of useless or duplicate items (ibid). Some gaming critics now include ‘business model information’ to their reviews in the hopes of informing consumers of the presence of loot boxes and their impact on gameplay before purchase.¹⁴

11- Warren, M. Loot Boxes: Exploitative Menace or Necessary Practice?. Shorthand. <https://universityofsunderland.shorthandstories.com/loot-boxes--exploitative-menace-or-necessary-practice--/index.html>

12- Ibid.

13- Ibid.

14- Frank, A. (2017, October 10). OpenCritic joins the loot box backlash. Polygon.

The presence of loot boxes can be traced back as far as 2007 (Pour, 2024), although it was not until the late 2010s that microtransactions, including loot boxes, began to be seen as a significant revenue source for game developers.¹⁵ By this time, developers had become adept at targeting players to boost in-game sales; realizing that ‘whales’ co-finance the game on behalf of the entire player base (Dreier et al., 2017). Analysis of game patents by King et al. (2019) identified behavioral tracking and dynamic pricing systems to incentivize ongoing spending without adequate consideration of vulnerability or consumer protection. High-profile examples include Activision’s system for driving microtransactions through match-making (Marr et al., 2016) and Electronic Arts’ dynamic difficulty adjustment system to increase duration of game play (Aghdaie et al., 2017).

Contention arises where developers engage in predatory behaviour to drive consumption of loot boxes. This was most effectively demonstrated during the beta phase of Electronic Arts’ Star Wars Battlefront II. The game contained a painstaking progression system to unlock well-known and powerful characters from the Star Wars series which could be bypassed through microtransactions, including loot boxes known as ‘crates’ (Pour, 2024). Consensus among beta players was that the progression system was not designed to be played through, but to incentivize spending real money.¹⁶ The game went well beyond players’ tolerance threshold for ‘fun pain’ (Dickey, 2011). An epic wave of backlash and calls for a boycott eventually led to EA declaring the temporary removal of microtransactions from the game before its release.¹⁷

<https://www.polygon.com/2017/10/9/16447682/opencritic-microtransactions-backlash-loot-boxes-shadow-of-war>

15- Thubron, R. (2018, February 12). Over half of Activision Blizzard’s \$7.16 billion yearly revenue came from microtransactions. TechSpot. <https://www.techspot.com/news/73230-over-half-activision-blizzard-716-billion-yearlyrevenue.html>

16- MBMMaverick, (2017, November 12). Seriously? I paid 80\$ [sic] to have Vader locked?. Reddit. https://www.reddit.com/r/StarWarsBattlefront/comments/7cff0b/seriously_i_paid_80_to_have_vader_locked

17- Byford, S. (2017, November 17) EA reverses course of Star Wars Battlefront II

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The impact of this backlash was made evident with long-term changes to the progression system and crate offerings and making the ‘most powerful items in the game’ only earnable via gameplay.¹⁸ It was further evident in Battlefront II missing its sales targets by 10%, which the company blamed on its loot box controversy,¹⁹ resulting in an 8.5% drop in EA’s share price equating to a \$3.1 billion shareholder loss.²⁰ Unsurprisingly, EA was more than willing at this stage to self-regulate its utilization of loot boxes, with its Chief Design Officer stating that “what’s happened with Battlefront and what’s happened with everything surrounding loot boxes [has] had an effect on EA as a company... We can shy away from it and pretend like it didn’t happen, or we can act responsibly and realize that we made some mistakes, and try to rectify those mistakes and learn from them”.²¹

While developers argue that loot boxes can aid the process of prolonging a game’s lifespan,²² critics argue that loot boxes are simply a tool to dispense content, which make them neither necessary nor preferred as a means to prolong the life of a game; loot boxes are instead vital in providing ongoing revenue for developers.²³ The author concurs with this view, noting that alternative monetization options such as the ‘battle pass’ reward model has been highly suc-

lot box controversy. The Verge. <https://www.theverge.com/2017/11/16/16668234/battlefront-2-loot-boxes-crystal-microtransactions-removed-ea>

18- (2017, October 12) Thank You For Playing the Beta You’re Making Star Wars Battlefront II Better. Electronic Arts. <https://ea.com/games/starwars/battlefront/star-wars-battlefront-2/news/thank-you-beta>

19- Sarkar, S. (2018, January 31). Star Wars Battlefront 2 sales miss target, EA blames loot crate controversy. Polygon. <https://www.polygon.com/2018/1/30/16952396/star-wars-battlefront-2-sales-loot-boxes-returning>

20- Kain, E. (2017, November 29). EA Shares Plummet After ‘Star Wars: Battlefront II’ Loot Box Fiasco. Forbes. <https://forbes.com/sites/erikkain/2017/11/28/ea-shares-plummet-after-star-wars-battlefront-ii-loot-box-fiasco>

21- Webster (n 11).

22- For example, see Webster, A. (2018, April 13). EA says it’s learned from Star Wars Battlefront controversy, vows to ‘be better’. The Verge. <https://theverge.com/2018/4/13/17230874/ea-star-wars-battlefront-2-loot-box-patrick-soderlund-interview>

23- Warren (n 11).

successful in popular titles such as Fortnite: Battle Royale and Pokémon Unite (Joseph, 2021), without the utilization of chance (i.e. simulated gambling), pay2win, and infinite loop elements of loot boxes.

3.2.2 Social norms in NSW and Australia

Public awareness of loot boxes and their impact on health and well-being is extremely limited. Academic interest in loot box mechanics were non-existent prior to 2018 (Zendle, 2021); the Wikipedia entry for ‘Loot box’ was published on 13 August 2017.²⁴

Interest in the potential harms of loot boxes in NSW began upon the commissioning of the NSW Youth Gambling Study 2020 by the NSW Office of Responsible Gambling (Hing et al., 2020b). As part of this study, a survey of NSW people aged 12-24 found that 73.1% of participants agreed or strongly agreed that loot boxes are addictive, 66.6% agreed or strongly agreed that loot boxes take advantage of children, 62.3% agreed or strongly agreed that loot boxes are deceptively sold or promoted, and 53.8% agreed or strongly agreed that loot boxes are a form of gambling (Rockloff et al., 2020). The findings of the Youth Gambling Study 2020 went on to be published on the GambleAware website, a government-funded campaign designed to encourage people to think about how gambling might be impacting their lives and for those who might be at risk of gambling harm to seek out information, support and treatment options.²⁵

The perception of loot boxes among non-young people in NSW is yet to be empirically explored. This is perhaps a reflection of the lack of regulatory action advanced in NSW, attributable to Liquor & Gaming NSW’s insistence that loot box mechanics do not constitute gambling under NSW law (Senate Environment and Communications References Committee, 2018). This is in spite of loot box harms being included in the NSW Department of Education’s

24- Loot box: Revision history. Wikipedia. https://en.wikipedia.org/w/index.php?title=Loot_box&action=history&dir=prev&limit=500

25- GambleAware. Office of Responsible Gaming. <https://www.gambleaware.nsw.gov.au>

Personal Development, Health and Physical Education (PDHPE) curriculum²⁶ and nationally syndicated media outlets such as the *Sydney Morning Herald*²⁷ and *ABC News*²⁸ canvassing concerns about the impact of loot boxes on children.

At the Commonwealth level, the *Inquiry into online gambling and its impacts on those experiencing harm: You win some, you lose more* has helped shepherd the dangers of gambling in video games into more mainstream discussion (Standing Committee on Social Policy and Legal Affairs, 2023). It recommended the implementation of consumer protections for games involving microtransactions, which led to new mandatory minimum classification for gambling-like content in video games to be introduced September 2024.²⁹ The acknowledgement of potential harms by the federal government may thrust loot box concerns into public consciousness and result in consumers making more informed decisions or developers self-regulating such content out of their product offerings (Zendle, 2021).

3.3 Markets

It is in the financial interest of developers to implement monetization models which pass consumer muster. The *Battlefront II* saga demonstrates the reputational harm which can occur from an overly aggressive monetization strategy, with flow on effects to sales, stock price and the cost of updating the mechanics of the game in line with community feedback. Conversely, microtransactions currently

26 Life Ready Stage 6 – Online Gambling. NSW Department of Education. <https://education.nsw.gov.au/content/dam/main-education/teaching-and-learning/curriculum/key-learning-areas/pdhpe/life-ready/life-ready-S6-device-based-gambling.docx>

27- Baker, J. & Leon, J. (2022, December 12). From loot boxes to gambling addiction: experts warn video games open door to betting. *Sydney Morning Herald*. <https://smh.com.au/national/nsw/from-loot-boxes-to-gambling-addiction-experts-warn-video-games-open-door-to-betting-20221209-p5c579.html>

28- Fernandez, J. (2022, November 28). What are video game loot boxes and do they encourage gambling?. *ABC News*. <https://www.abc.net.au/news/2022-11-28/what-are-video-game-loot-boxes/101705972>

29- Rowland (n 9).

account for 30% of the \$200 billion gaming market,³⁰ with Juniper Research (2021) projecting loot boxes will generate \$20.3 billion in annual revenue for the sector by 2025. Whether this revenue stream proves too enticing to pursue is yet to be seen (Zendle, 2021).

In traditional gambling contexts, gambling proponents argue that the supply of gambling opportunities occurs in response to demand (Şimşek & Weidner, 2024), while opponents suggest that supply drives demand through advertising, inducement and opportunity (Ramezani & Ahern, 2023). However, applying established market principles to the regulation of loot boxes is complex. Initially, supply and demand principles cannot effectively be applied given that digital products in video games, including loot boxes, offer endless supply (Lessig, 2006). The purely digital nature of loot boxes and in-game items therefore allows for endless supply with no marginal cost to the developer. Accordingly, developers can test the price elasticity of loot boxes to maximize revenue (Lee & Lee, 2013). Unfortunately, testing consumer price sensitivity is not the only manner in which developers seek to drive demand; predatory monetization tactics also seek to increase microtransaction sales. Lessig's 'markets' modality of constraint is therefore limited in its ability to constrain the consumption of loot boxes.

3.4 Architecture

As discussed in the above section, loot boxes are available in infinite supply with almost no marginal cost to the developer. While this is the inherent reality of many digital technologies, an overt decision has been made by developers not to implement any physical limitations on loot box expenditure. Lessig (2006) refers to such integrated limitations as the 'architecture' of the technology. In other words, no architecture has been implemented in video games to limit the consumption of loot boxes or their associated impacts. Evidence of

30- McConnell, E. (2023, January 27). Microtransactions Dominate 30% Of The \$200 Billion Gaming Market – This Startup Is Fighting Back. Yahoo Finance. <https://finance.yahoo.com/news/microtransactions-dominate-30-200-billion-162226239.html>

predatory monetization tactics instead shows game architecture has been used to accomplish the contrary.

Architecture designed to limit the purchase of loot boxes or their impacts is analogous to spending limitations in traditional gambling products. Significant political debate in Australia on the harms of poker machines (also called electronic gaming machines or slot machines) has led to varying levels of architectural changes to poker machine operation. Victoria, the Australian jurisdiction most comparable to NSW, recently imposed mandatory carded play for poker machines – machines cannot be operated without a player signing in and setting a pre-commitment limit, with a feed-in cap of \$100 and a default maximum loss cap of \$50 per day.³¹ Sign in also allows players to track their long-term spending.³² As at the time of writing, NSW is trialing a cashless gambling card of a similar nature.³³

Video game architecture could theoretically adopt similar protections. Given the associated harms of loot boxes (Xiao et al., 2024; Hing et al., 2023; Sirola et al., 2023; Drummond et al., 2022; Primi et al., 2022; Rockloff et al., 2021; Zendle & Cairns, 2019), I argue that there is a moral imperative to do so. Additionally, I argue that governments whose policy seeks to curb gambling-related harms should extend to loot box harms regardless of their position on whether loot box engagement fits their established definition of gambling. In China, for example, where traditional gambling is unlawful, lawmakers have opted to regulate loot boxes assertively enough to prevent the practice of constituting gambling. Regulations imposed on 1 May 2017 ban the purchase of loot boxes with real currency (or virtual

31- Andrew, D. (2023, July 16). Landmark Reforms to Reduce Gambling Related Harm. Victoria State Government. <https://content.premier.vic.gov.au/sites/default/files/2023-07/230716-Landmark-Reforms-To-Reduce-Gambling-Related-Harm.pdf>;

Kolovos, B. (2024, June 20). Victoria moves to introduce default \$50 loss limit on poker machines. The Guardian. <https://www.theguardian.com/australia-news/article/2024/jun/20/victoria-50-loss-limit-poker-machines-default-pokies>

32- Ibid.

33- NSW cashless gaming trial. Liquor & Gaming NSW. <https://www.liquorandgaming.nsw.gov.au/community-and-stakeholders/independent-panel-on-gaming-reform/cashless-gaming-trial>

currency purchased with real currency) and mandate the disclosure of loot box probability rates and player spending for the previous 90 days.³⁴ Players are limited to 30 loot boxes purchases per day, with games being barred from implementing mechanics which give rise to a ‘compulsion loop’.³⁵ This means that, for example, if a loot box has a 10% chance of dropping a certain item, a player who opens 10 loot boxes must be guaranteed at least one of that item, ensuring the player is not required to indefinitely engage with loot boxes to achieve an in-game task. Due to the complexity and assertiveness of China’s regulations, many developers prefer to remove loot boxes entirely.³⁶

34-C Tang, T. (2018, May 16). A Middle-Ground Approach: How China Regulates Loot Boxes And Gambling

Features In Online Games. Mondaq. <https://www.mondaq.com/china/gambling/672860/a-middle-ground-approach-how-china-regulates-loot-boxes-and-gambling-features-in-online-games>

35- (2020). Content Restrictions and Requirements For Publishing Games in China. AppInChina. <https://appinchina.co/services/game-publishing/content-restrictions-for-publishing-games-in-china>

36- (2023, August 30). A look at the current state of videogame loot box regulation worldwide. 1D3 Digitech. <https://www.1d3.com/blog/loot-box-regulation-worldwide>

Architectural changes are not limited to traditional gambling protections. On 19 December 2022, Epic Games, developer of the hugely popular game Fortnite, entered into an agreement to pay \$520 million with the US Federal Trade Commission for violating the *Children's Online Privacy Protection Act* by using design tricks to induce millions of players into making unintentional purchases.³⁷ In its filing, the FTC summarised Epic Games' design tricks as: 1) deploying 'counterintuitive, inconsistent, and confusing button configuration' to lead players (including children) to incur unwanted charges based on the press of a single button; 2) charging account holders without authorization after saving credit card information without the player's affirmative consent; and 3) blocking access to purchased content by locking out players from their accounts if they disputed the unauthorized charges through their banking institution.³⁸ Epic also made Fortnite's cancellation and refund features harder to find and use over time.³⁹ The architectural flaws of the game therefore went beyond the usual susceptibilities seen poker machines or even loot boxes mechanics. Accordingly, the architectural limitations envisioned by Lessig could extend beyond what has historically been relied on to reduce gambling-related harms.

37- (2022, December 19). Fortnite Video Game Maker Epic Games to Pay More Than Half a Billion Dollars over FTC Allegations of Privacy Violations and Unwanted Charges. Federal Trade Commission. <https://ftc.gov/news-events/news/press-releases/2022/12/fortnite-video-game-maker-epic-games-pay-more-half-billion-dollars-over-ftc-allegations>

38- Ibid.

39- Ibid.

Conclusion

Due to their documented harms, it is incumbent on developers to adopt monetization strategies which avoid or minimize psychological and financial impacts on players. This is particularly the case for loot boxes which in many ways mimic the operation and psychological manipulations of traditional slot-machine style gambling offerings. However, the enormous revenue contribution of loot boxes operating unhindered means this is unlikely to occur without state intervention (Xiao & Henderson, 2021). Lessig's four modalities of constraint suggest that state intervention is not the only potential driver of loot box regulation, albeit being the most direct, certain and enforceable. Lessig's teachings, as well as ongoing research into the effects of loot boxes on gamers, should advise NSW regulators on the development of effective harm-minimization measures in video games.

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Assael, S. (2017, January 20). Skin in the Game. *ESPN*. https://www.espn.com/espn/feature/story/_/id/18510975/how-counter-strike-turned-teenager-compulsive-gambler

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