

Loot Crates: Where the Difference Between ‘Gaming’ and ‘Gambling’ is Simply Two Letters

**An overview of chance-based microtransactions within the
gaming industry**

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Executive Summary

This paper considers loot crates from various angles and approaches, from their history, construction, market penetration, regulation both domestically and nationally, and offers some recommendations on how to address any identified issues.

Loot crates are simply one form of many revenue streams available to developers in their quest to keep consumers engaged with their product. They are choosing to pursue the loot crate revenue stream because it is currently the most lucrative option available.

Loot crates utilise the same psychological principles as slot machines in the form of 'hook loop' mechanics and these have been described by psychologists as creating some of the most powerful addictive effects. These mechanics are deliberately added to games in order to exploit people's psychological vulnerabilities for consumer retention and profit.

Based on survey data it was established that most Australian children and well over half of Australian adults are 'gamers', which raises concerns about their exposure levels to these harmful mechanics. In particular, a key concern is that it could lead to problem gambling, or normalise gambling behaviours. Unfortunately, there is already evidence surfacing of problem gaming behaviours in both children and adults. Even worse was that most of the popular game titles analysed had some form of these mechanics present in a way which is considered a medium to high risk of being predatory and thus likely to cause harm.

Australian agencies have the frameworks in place to easily address these issues under existing consumer protection law, the National Classification System and gambling legislation, however loot crates are falling just outside of the scope of all of these areas of law. For consumer law it is difficult to prove if there is misleading or deceptive conduct occurring due to the lack of information about the drop rates of loot boxes. In classification legislation, gambling is not a key consideration requirement, and as such does not get closely analysed by the classification board, and gambling legislation struggles to link loot crates to the current definitions of gambling.

Internationally, some countries have banned loot crates outright such as Japan, Belgium and the Netherlands. Other have opted to attempt to regulate them with limited success such as China which made their sale illegal and odds disclosure mandatory. This has had limited success with developers quickly responding by slightly re-writing their loot crate mechanics to once again sit just outside the scope of the law by offering loot crates for free with virtual currency purchases, and thus exploiting loopholes in the legislation.

Several international rating agencies and gambling boards have said that loot crates do not fit the definition of gambling because the items do not hold real-world value. The fact that developers do not expressly allow the items to be converted to real-world money through their

game reinforces this, despite conversion occurring through third party websites. This ignores the fact that there is a causal link that has been established which shows that where developers allow microtransactions for loot crates, and the trading of those loot crate items between players, this gives rise to grey markets and middle-men which exploit the operation of these systems.

Based on all of this information I am of the conclusion that loot crates are gambling and are causing harm to the Australian public. I believe that the most effective means of addressing the issue is to bring loot crates within the definition of 'gambling' through strategic amendments to key legislation. Further, combine those amendments with new legislated requirements that all odds be disclosed, extra addictive elements (bright lights, colours, sounds etc.) be removed, and safety controls be put in place on the number of crates that can be opened in a period of time. Lastly, amend key legislation to ensure that these mechanics are specifically analysed by the Classification Board and where found to be present, carry a mandatory R18+ classification. These strategic amendments are cheaply and easily implemented and will address most of the issues raised. It also protects the balance of protecting minors and allowing adults to partake in these activities under a regulated system, rather than outright prohibition.

Table of Contents

1. Introduction	5
2. History and Prevalence of Loot Crates	5
2.1 History of revenue streams and origin of loot crates	5
2.2 Prevalence of loot crates within the industry	7
2.2.1 Methodology	7
2.2.2 Analysis: Prevalence of Monetisation Mechanics	7
2.2.3 Risk Model & Analysis	10
3. Game Mechanics, Risks & Exposure	12
3.1 Monetisation Mechanics	13
3.2 Risks to Consumers	14
3.3 Problem Gambling Behaviour Characteristics	16
4. Other Cases for Regulation	17
4.1 Theft & Scams	17
4.2 E-Sports & Gambling	18
4.3 'Skin' & Virtual Item Gambling	18
4.4 Conversion: Digital Items to Real-World Currency	19
5. Domestic Legislative Framework, Oversight & Considerations	20
5.1 Legislation and Regulatory Bodies	21
5.1.1 Consumer Protection	21
5.1.2 Gambling Legislation and Authorities	22
5.1.3 Classification Board & Authority	23
5.1.4 Australian Classification and Media Authority ('ACMA')	24
5.1.5 NSW Law Reform Commission	25
5.1.6 Australian Taxation Office	25
5.2 Industry Bodies	26
5.2.1 Interactive Games and Entertainment Association	26
6. International Approaches and Considerations	26
6.1 International Jurisdictional Regulation	26
6.1.1 Japan	26
6.1.2 South Korea	26
6.1.3 China	27
6.1.4 United Kingdom	28
6.1.5 Germany	29
6.1.6 Netherlands	30

6.1.7 Belgium	30
6.1.8 France	31
6.1.9 USA	32
6.1.10 Apple (and Other Multinational Corporations)	33
6.2 International Rating Agencies	33
6.2.1 ESRB	33
6.2.2 PEGI	34
6.2.3 USK	34
7. Recommendations	35
7.1 Recommendation 1: Make disclosure of odds on chance-based items mandatory	35
7.2 Recommendation 2: Put Gambling Safeguards in Place	35
7.3 Recommendation 3: Expand the Classification Board's Considerations	35
7.4 Recommendation 4: Amend gambling legislation to expressly include chance-based microtransactions within the definition of "gambling".	36
8. Conclusion	36
9. References	38
10. Annexures	43
Annexure A: Conceptual Framework of [Gambling] Harm	43
Annexure B: AUS Sales Data, by Digital and Physical sales	44
Annexure C: Prevalence in Top 10 Titles 2014 - 2018	45
Annexure D: Prevalence in Top 20 Titles 2018	45
Annexure E: Prevalence in 15 Popular Free to Play Titles	45
Annexure F: Risk in Top 10 Titles 2014 - 2018	46
Annexure G: Risk in 2018 Top 20 Titles	46
Annexure H: Risk in 15 popular Free to Play Titles	46
Annexure I: Source Data	47

1. Introduction

Computer and mobile gaming has become increasingly popular over the years and competition amongst developers is fierce. This has led to various innovative ways to try and generate extra or alternate revenue streams. The newest approach that developers are using is a form of chance based microtransaction often referred to as 'loot boxes', 'loot crates' or 'gachas'.

The rise in popularity of loot crates has also given rise to concerns as to whether or not they are just another form of gambling. This is especially true where virtual items can be 'cashed out' for real-world money. There are also concerns about the effectiveness of the current Australian legal and regulatory framework and its ability to effectively manage these issues.

By gaining an understanding of how these microtransaction systems operate, how many games actually employ them, and how many consumers play these games, we can gain a broad enough understanding to assess the risk. Through analysing key events and controversies within the industry we can identify the most prominent issues arising from microtransactions and where regulation would be needed most. Lastly, by analysing the Australian regulatory framework and comparing it to other international jurisdictions, we can gain an understanding of how effective it is with reference to other leading countries. This will then enable the creation of effective recommendations.

Overall this paper will aim to provide a moderately detailed overview of the key issues and considerations surrounding loot crates, enabling the reader to identify key areas for further research and consideration.

2. History and Prevalence of Loot Crates

It is important to understand the context of how loot crates originated, as well as other revenue streams or options that are available to developers.

2.1 History of revenue streams and origin of loot crates

Originally titles were sold complete and would sometimes contain shareware or demonstrations 'demos' of other titles. As a title gained enough popularity, sometimes a sequel or 'expansion pack' was sold. Titles were largely considered to be a product that was sold once, and then forgotten.

As time progressed, developers started offering Downloadable Content ('DLC') which is generally significantly smaller in scale than the expansion packs of old, but along the same lines of new content being added. Most commonly you will see new characters, costumes or other

small aesthetic additions, or alternatively soundtracks, artwork or even extra missions or stories added.

With the advent of the internet, there was a rise in online gaming. This saw the introduction of Massively Multiplayer Online Role-playing Games ('MMORPGs' or 'MMOs') such as Blizzard's '*World of Warcraft*'. Some developers started to offer games as 'software as a service' and users were charged a subscription fee to utilise the service (or play the game). The game would carry on endlessly with content always being added to keep players engaged.

At around the same time we saw the introduction of virtual currencies as yet another way to raise revenue. This allowed users to spend real-world currency to purchase in-game virtual currency. This was an opportunity for developers to earn additional revenue, and users could benefit by opting to spend less time playing the game to earn virtual currency or items (often referred to as 'grinding') and opt to spend real-world currency instead. This suited users who had less time to spend participating in these otherwise time-intense games.

At some point the viability of virtual currencies was recognised and this gave rise to a genre known as free-to-play ('F2P') games where they are completely free to play, however they are designed to strongly encourage in-game purchases using real-world money, or the user faces excessive amounts of grinding to achieve any progress. These are broad generalisations only, and there have been almost every conceivable form of implementation of this type of revenue stream. Popular examples can be seen in the mobile gaming industry with apps such as King's '*Candy Crush*' or in PC titles such as Riot's '*League of Legends*' and Valve's '*Team Fortress 2*'.

As all of these previous revenue streams started gaining momentum and the market started becoming saturated with poor quality content, a new form of revenue stream came into existence known as the 'loot crate'.

The idea behind loot crates is that the user would spend something such as virtual currency to 'open' the crate which would contain a 'random' item. The item you win can then be used, traded or sold for in-game virtual currency. At this point the item you 'won' is analogous to a trading card game, you are naturally inclined to trade in or sell off duplicates and purchase more loot crates in order to get the missing 'cards' you want. Unlike a card game however, the cards can be changed, removed or altered at any stage of the process, even after you have received the item. This can be done for almost any reason by the developer. For example, I win an item in a loot crate then in a game update the developer decides to alter that item's statistics or remove it from the game...they have essentially manipulated its inherent value.

An industry leader in terms of successfully implementing the loot crate revenue model is Valve's '*Counter Strike: Global Offensive*' which retails for approximately \$20.00 USD for a license. It has reaped substantially more from players purchasing keys to open loot crates within the game, than from direct sales of the product itself. This has also led to major issues such as 'skin gambling' which will be discussed later.

What you can see is the natural progression of an industry exploring alternate means of generating revenue, and experimenting with various innovative ways to continue to engage with users. Unfortunately this has also seen the clear distinction between gaming and gambling start to become blurred, largely due to the introduction of virtual currencies and virtual stores nested within games, and games of chance being added.

2.2 Prevalence of loot crates within the industry

With an understanding of how loot crates came into being and why they are popular amongst developers, we need to consider how many games use these mechanics and what trends, if any, can be identified.

2.2.1 Methodology

In order to understand the prevalence of loot crates within the industry, 3 different data sets were analysed. First, the top 10 best selling titles from 2014 to 2018 were analysed to derive trends; secondly the top 20 titles of 2018 were determined to gain a deeper understanding of the market at this point in time, lastly 15 popular F2P titles were analysed because they are relevant to the topic but not captured in the same retail data sets relied upon. This is because they are not 'sold'; they are 'free'; but instead rely on microtransactions to raise revenue, they also tend to last for many years as they are based on the 'software as a service' model outright.

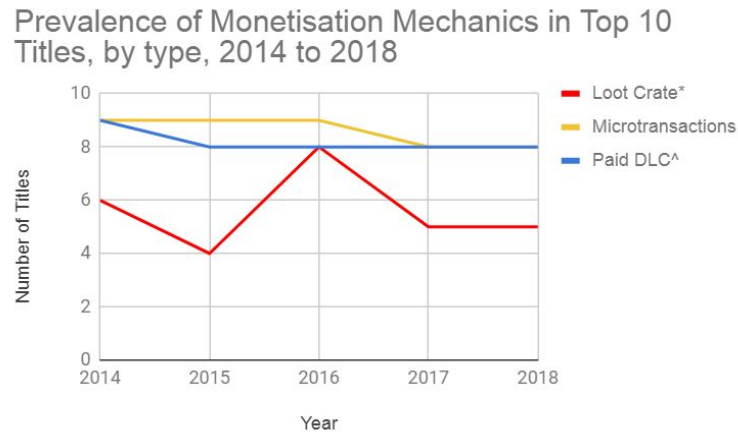
These 3 data sets were analysed to determine if they contained:

- microtransactions,
- paid downloadable content ('DLC'),
- loot crates (or similar) mechanics, and
- Their Australian classification (if any).

As 2018 year data is incomplete, a sample of the top 10 best selling titles month to month was used as the 2018 figure for trends, and the top 20 used for the 2018 point in time data set, with the most persistent titles from each month being used. The source data for these figures has some caveats, namely that the data is for the US retail market, and only for physical sales (rather than digital). The F2P data set is not subjected to these caveats. For source data and references please refer to Annexures C to I.

2.2.2 Analysis: Prevalence of Monetisation Mechanics

Fig.1: Prevalence of Monetisation Mechanics in Top 10 Titles, by type, 2014 to 2018



* includes any form of loot crate or 'gacha' mechanic

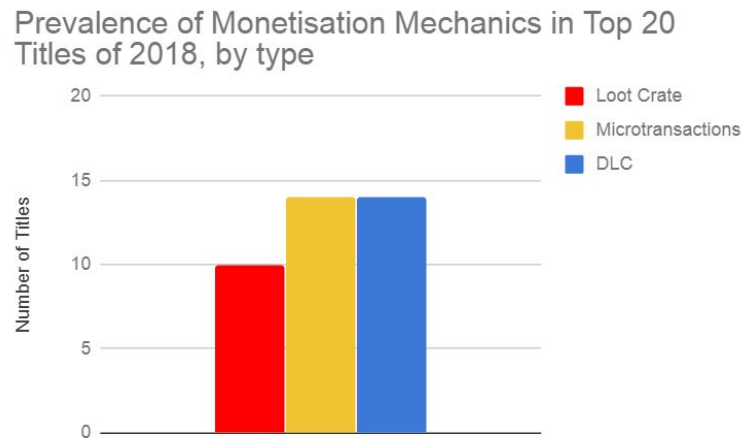
^ Paid DLC broadly incorporates any additional content purchased (Pre-orders, special editions, expansions, bundles, soundtracks etc.)

- This graph considers the prevalence of loot crates, microtransactions and paid DLC in the top 10 most popular titles each year, from 2014 to 2018.

Based on my rudimentary analysis, DLC and microtransactions are more popular than loot crates, with around 8 out of 10 titles utilising DLC and/or microtransactions on average, but only 5 out of 10 using loot crates. There was a noticeable decrease in the use of loot crates and microtransactions around 2016/17 and this is largely attributed to increased negative consumer sentiment towards loot crates (due to them being overly prohibitive on gameplay). This peaked in the 'loot crate controversy' of 2017 sparked off by the release of *Star Wars Battlefront 2* which had key features of the game locked behind loot crates and microtransactions.¹ The blowback from consumers led to the game being revised to remove some of those mechanics entirely. The hostile consumer sentiment seems to have shaped developer considerations from then onwards, with many choosing to take a slightly more cautious approach in the following year (8 titles had loot crates in 2016, only 5 in 2017).

¹ Webster, A, 2018, *EA says it's learned from Star Wars Battlefront controversy, vows to 'be better'*, The Verge, accessed 23/07/2018, <https://www.theverge.com/2018/4/13/17230874/ea-star-wars-battlefront-2-loot-box-patrick-soderlund-interview>

Fig. 2: Prevalence of Monetisation Mechanics in Top 20 Titles of 2018



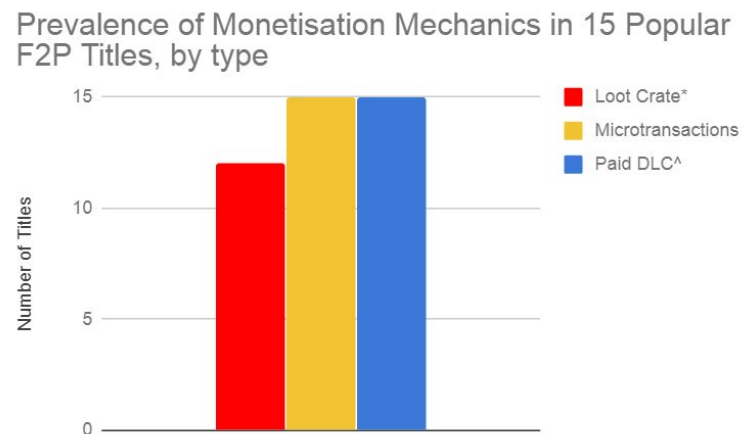
* includes any form of loot crate or 'gacha' mechanic

^ Paid DLC broadly incorporates any additional content purchased (Pre-orders, special editions, expansions, bundles, soundtracks etc.)

- This graph considers the prevalence of loot crates, microtransactions and paid DLC in the top 20 most popular titles of 2018 so far.

When considering the top 20 titles in 2018, roughly two thirds have microtransactions and DLC, compared to half which have loot crates. I would predict that as time goes on, the utilisation of these mechanics will increase as negative consumer sentiment decreases.

Fig.3 Prevalence of Monetisation Mechanics in 15 Popular Free-to-Play Titles



* includes any form of loot crate or 'gacha' mechanic

^ Paid DLC broadly incorporates any additional content purchased (Pre-orders, special editions, expansions, bundles, soundtracks etc.)

- This graph considers the prevalence of loot crates, microtransactions and paid DLC in 15 popular free-to-play titles of 2018 so far.

When considering the F2P titles, all 15 (100%) had microtransactions and DLC, but only 12 (80%) had loot crates. This shows a significantly higher proportion of monetisation mechanics in these games, but this is expected considering these games are not purchased in a store and instead rely on microtransactions etc. as their primary source of revenue. The higher than

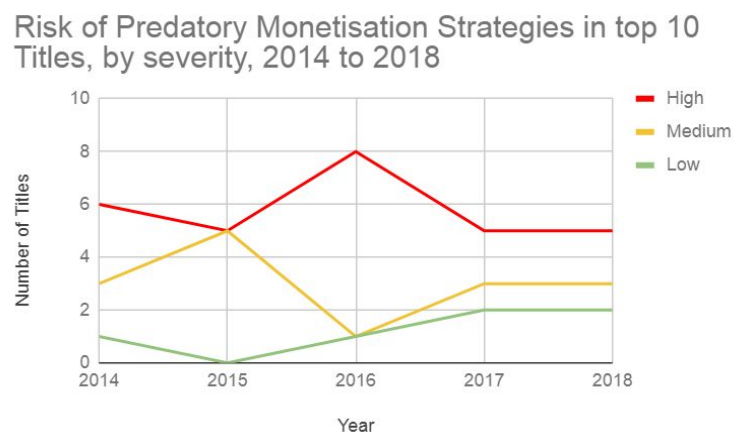
average prevalence of loot crates on the market today may also be attributed to this model of computer and mobile games.

2.2.3 Risk Model & Analysis

In order to gain deeper insights from the data, a basic risk model was developed. The risk being considered by the model is the likelihood that a game could contain predatory monetisation strategies that would harm consumers.

The model assigns game titles a risk factor of ‘high’, ‘medium’ or ‘low’ based on the prevalence and implementation of certain monetisation mechanics, as well as the appropriateness of the relevant Australian classification of the game title (I.E the likely audience that will be exposed). For example “*GTA-V*” is heavily reliant on microtransactions, but carries a R18+ rating and thus is considered a lower risk than “*NBA 2K18*” which contains loot crate mechanics, microtransactions and DLC and is only rated G.

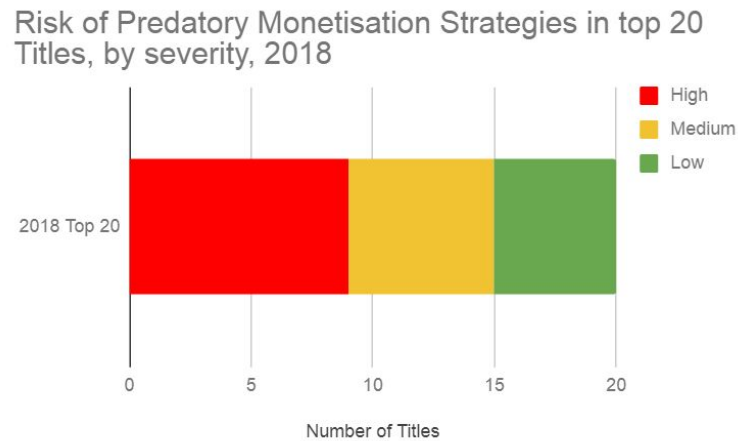
Fig. 4: Risk of Predatory Monetisation Strategies in Top 10 Titles, by Severity, 2014 to 2018



* Risk factors are indicative only, based on quantity of monetisation strategies, and classification ratings.

This graph represents how many of the top 10 titles of each year had high, medium or low risks of having predatory monetisation strategies. For further information, please refer to the “2.2.1 Methodology” & “2.2.3 Risk Model & Analysis” sections.

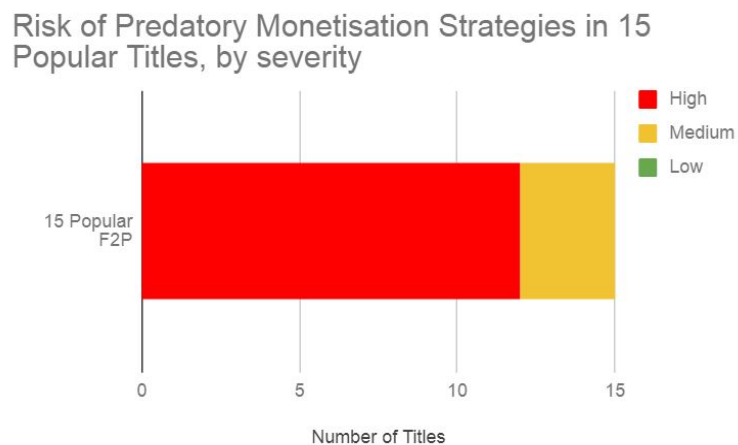
Fig. 5: Risk of Predatory Monetisation Strategies in Top 20 Titles, by Severity, 2018



* Risk factors are indicative only, based on quantity of monetisation strategies, and classification ratings.

This graph represents how many of the top 20 titles of 2018 so far, had high, medium or low risks of having predatory monetisation strategies. For further information, please refer to the “2.2.1 Methodology” & “2.2.3 Risk Model & Analysis” sections.

Fig. 6: Risk of Predatory Monetisation Strategies in 15 Popular Free-to-Play Titles, by Severity



* Risk factors are indicative only, based on quantity of monetisation strategies, and classification ratings.

This graph represents how many of the 15 popular free-to-play titles analysed had high, medium or low risks of having predatory monetisation strategies. For further information, please refer to the “2.2.1 Methodology” & “2.2.3 Risk Model & Analysis” sections.

When considering the risk factor model, on average, 58% of top 10 titles were high-risk, 30% were medium risk, and 12% posed low/no risk. This was opposed to 80% of F2P titles being high-risk, 20% being medium-risk and no low risk titles being present.

The increasing prevalence of these mechanics in titles has given rise to a noticeable decline in the quality of titles but an increase in the quantity of titles being offered. This is largely due to

many developers releasing titles designed to exploit these methods to insane degrees simply to make 'easy money' rather than actually contribute a quality product. For example, look at any mobile games marketplace and you will find no shortage of titles of questionable quality and support, but perfectly functioning pay walls, loot crates and microtransactions.

For more detailed data in the computer game industry, the Steam Digital Distribution Platform gives statistics of the top-100 most popular games, by player counts on Steam, accurate to within 48 hours on a global level and this includes digital sales. This may assist with further analysis.²

3. Game Mechanics, Risks & Exposure

With the understanding that there is a significant level of market saturation of loot crates in popular titles, it is important to understand how these mechanics are utilised in order to appeal to consumers on a psychological level, and why the manipulation of these mechanics could constitute a real and considerable risk to consumers. There are direct parallels that can be drawn between the gambling industry's implementation of these mechanics with slot machines, and the way these are being used in loot crates and other monetisation strategies in the computer and mobile gaming industries.

Once we understand how these mechanics could be misused and if they are harmful, we need to identify the potential number of people who could be impacted and some demographic data to further refine the risk profile.

3.1 Monetisation Mechanics

This section will focus on the monetisation mechanics and their use in games. Monetisation mechanics can best be defined as mechanics which manipulate people's inherent psychological weaknesses through in-game features or designs such as microtransactions or loot crates (generally with the goal of raising revenue and/or consumer retention). Whilst these principles have their foundation in psychology and use established psychological principles, I will focus more broadly on their use within the gaming industry and games rather than delving into the underpinning research.

The basic principles are derived from experiments such as the "skinner box" by famous behavioural psychologist B.F. Skinner, and the development of concepts such as "flow" (a trance-like state) by psychologist Mihaly Csikszentmihalyi.³ The flow concept has four requirements:

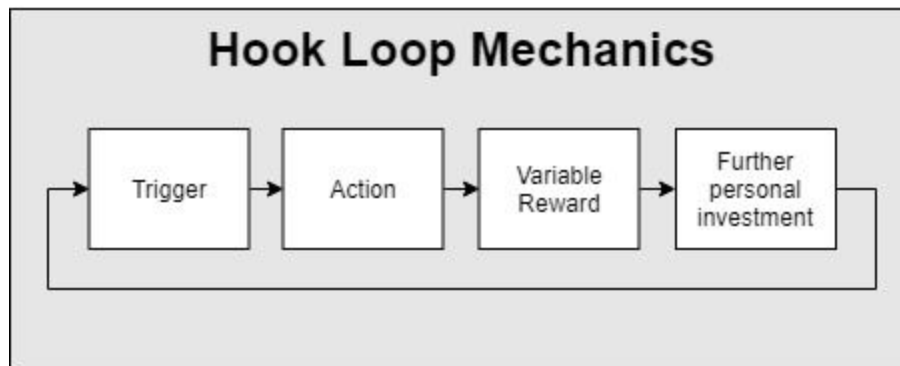
² Steam, 2018, Accessed 23/07/2018, <https://store.steampowered.com/stats/>

³ Thompson, A, 2015, Engineers of addiction: Slot Machines Perfected Addictive Gaming. Now, Tech Wants Their Tricks, The Verge, accessed 19/07/2018, <https://www.theverge.com/2015/5/6/8544303/casino-slot-machine-gambling-addiction-psychology-mobile-games>

- Each moment of the activity must have a little goal;
- the rules for attaining that goal must be clear;
- the activity must give immediate feedback
- the tasks of the activity must be matched with challenge.

These four aspects largely underpin the design of many games, most notably slot machines in casinos, dating apps and computer games.⁴ The article '*How Angry Birds 2 Multiplied Revenues in a Year*' by Katkoff demonstrates how these psychological principles are used in games by deliberate design in order to exploit user's inherent psychological weaknesses in order to turn a profit.⁵

Fig. 7: Hook Loop Mechanics Flowchart



The above chart illustrates how the loop functions, with a trigger such as winning a loot crate, the action of opening it, a variable reward in the form of a virtual item and then further personal investment such as playing the game (or buying more loot crates), which sets off the trigger and the cycle repeats.

The diagram above is a basic illustration of a “variable ratio reinforcement schedule” or “hook loop”. They work by granting a user a high value rewards after an average number of plays and this quickly leads to gambling behaviours becoming entrenched as it is considered one of the most powerful means of behavioural reinforcement by psychologists.⁶ The aim is to make the experience as enjoyable as possible and keep users engaged with the service, whilst their resilience and resolve against monetisation mechanics is slowly worn down.

It should be clear that these mechanics are being taken beyond the context of what is ‘just a game’ and are moving closer towards the deliberate exploitation of psychological vulnerabilities through careful design and consideration. Ethical concerns aside, the only difference between this and gambling, is that gambling companies have regulatory bodies with oversight, and the

⁴ Ibid.

⁵ Katkoff, M, 2017, *How Angry Birds 2 Multiplied Revenues in a Year*, Deconstructor of Fun, accessed 17/07/2018, <https://www.deconstructoroffun.com/blog/2017/6/11/how-angry-birds-2-multiplied-quadrupled-revenue-in-a-year>

⁶ Walker, A, 2018, '*Psychologists Argue Loot Boxes In Some Games Are 'Akin To Gambling'*', Kotaku, accessed 24/07/2018, <https://www.kotaku.com.au/2018/06/psychologist-argues-loot-boxes-in-some-games-are-akin-to-gambling/>

companies need to pay the government in excises and taxes for the privilege of exploiting its people via these means.

3.2 Risks to Consumers

Thanks to the internet there has been a rapid increase in the interconnectivity of people and devices. For many, the internet is still relatively new and they are facing knowledge gaps with how to safely use it. In order to help inform Australians in the digital age and help educate people regarding the risks they may face, the Office of the Australian eSafety Commissioner was created with the mission of promoting online safety for all Australians.⁷

The issue of loot crates and online gambling is serious enough that the office has some dedicated resources targeted at parents in order to protect their children when online, with a specific section dedicated to online gambling and including loot crates.⁸ There are some key points raised by the Commissioner with regards to gambling & loot crates based on a 2015 study by the Victorian Responsible Gaming Foundation ('VRGF'):⁹

- Research into the impacts on young people of gambling-like elements in games and simulated gambling is in its early stages.
- For some children, playing social casino games leads to an increase in gambling activity (possibly because these games normalise gambling for them or inflate their confidence of winning in a real gambling scenario).
- For other children, it can act as a substitute, reducing their interest in real gambling.

If the findings indicate anything, it is that there are risks present but they are unsure of what the exact impacts might be. Further research is required, but there is the real risk that harm may be occurring. If we can accept that there are some inherent risks posed to consumers and children through the use of monetisation mechanics, the question remains: how many consumers are actually exposed to these risks through gaming?

Consider the proportions of gamers by age groups, 76% of children under the age of 18 report playing video games, compared to 65% of working age adults and 43% of people aged 65 and over.¹⁰ By gender, by age, males are the majority of players in age bands, except between 35 to 44 years of age.¹¹

⁷ Office of the eSafety Commissioner, *Role of the Office*, accessed 16/07/2018, <https://www.esafety.gov.au/about-the-office/role-of-the-office>

⁸ Office of the eSafety Commissioner, *Online Gambling*, accessed 16/07/2018, <https://www.esafety.gov.au/education-resources/iparent/staying-safe/online-gambling>

⁹ Victorian Responsible Gaming Foundation, 2015, *Convergence of gambling and gaming in digital media*, accessed 16/07/2018, <http://www.insidegambling.com.au/editions/3/articles/convergence-of-gambling-and-gaming-in-digital-media>

¹⁰ Brand, J. E., Todhunter, S. & Jervis, J. (2017). Digital Australia 2018. Eveleigh, NSW: IGEA, pg 12., accessed 17/07/2018, <http://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf>

¹¹ Ibid.

This is important information because men are disproportionately more susceptible to more severe forms of problem gambling than women. For example, a study in Victoria in 2014 found that men are almost twice as likely to be problem gamblers than women (1.01% for men vs 0.61% for women), and almost 3 times as likely to be moderate-risk gamblers (4.21% for men vs 1.45% for women).¹²

Compare this to some of the most popular titles available that contain microtransactions and loot crates, and an age restriction classification lower than 'R18+' (See Annexure I), and you will see that very few games are adequately rated to alert parents to, and protect minors from, predatory monetisation mechanics.¹³

3.3 Problem Gambling Behaviour Characteristics

It is important to be able to identify what the potential signs are of problem gambling/gaming behaviours and identify if there has been any evidence of these behaviours occurring due to loot crates. The Australian eSafety Commission on its page for parents and online gambling, lists some characteristics that may be indicative of problem gambling behaviour:¹⁴

- spending lots of time talking or thinking about gambling or an obsession with simulated gambling apps and games
- obsessing about odds when watching sport instead of focusing on the game
- borrowing or taking money from family and friends (can include using linked accounts for online credit payments)
- lying or being secretive about gambling activities
- having mood swings, or stressed when not gambling
- suffering forms of depression, including isolation from friends
- skipping school or grades falling due to time spent gambling.

A useful tool in assessing some of the dimensions of gambling behaviours is within the framework developed by the VRGF¹⁵ (See Annexure A) and the examples of manifestations of these behaviours provided in their fact sheet¹⁶. There are several examples in the media of adults & children within Australia exhibiting some of these characteristics when it comes to gaming:

¹² Victorian Responsible Gaming Foundation, 2014, *Fact sheet 12 Study of gambling and health in Victoria Gambling participation and gender*, pg 1, accessed 17/07/2018, available for download at <https://responsiblegambling.vic.gov.au/resources/publications/fact-sheet-12-gambling-and-gender-153/>

¹³ The Classification Review Board has limitations on its scope when classifying games which is why these ratings appear so 'low'. See the "Classification Board & Authority" section for further information.

¹⁴ Above n 8.

¹⁵ Victorian Responsible Gaming Foundation, 2016, *Fact sheet 1: A conceptual framework of gambling harm*, accessed 17/07/2018, <https://responsiblegambling.vic.gov.au/resources/publications/fact-sheet-1-a-conceptual-framework-of-gambling-harm-165/>

¹⁶ Victorian Responsible Gaming Foundation, 2016, *Fact sheet 2: The seven dimensions of gambling harm*, accessed 17/07/2018, <https://responsiblegambling.vic.gov.au/resources/publications/fact-sheet-2-the-seven-dimensions-of-gambling-harm-166/>

- A 25 year-old man lost \$15,000 in CS:GO skin gambling¹⁷
- 11-year old exhibiting possible gaming addiction to *Fortnite*¹⁸
- Multiple children spending excessive amounts of time playing and/or exhibiting potential behavioural issues¹⁹
- One man spends \$15,000+, another spends \$50,000+ on loot crates²⁰
- Australian journalist explains her own addiction to mobile games²¹

The list is not exhaustive and I believe that although not all cases are as extreme as those in the media, however there is still enough anecdotal evidence to warrant significant concerns. Some academics have also called the implementation of these mechanics predatory practices and raised concerns about the impacts these will have on people.²²

The main concern is that these crates present a clear parallel between problem gambling behaviours from gambling and problem behaviours related to loot crates/microtransactions. The loot crate mechanics are different enough to avoid existing regulation, but the substance of them is exactly the same. This warrants the case for regulation in some form, even if not under gambling regulations.

4. Other Cases for Regulation

The fact that loot crates are harmful and enough people are at risk from their effects, should be enough to warrant regulation in its own right however there are broader issues developing on a global scale that can be directly or indirectly attributed to loot crates. It is important to understand this context because loot crates are contributing to these problems either directly (as in the cases of skin gambling) or indirectly (in match-fixing scandals).

4.1 Theft & Scams

Most titles with microtransactions will require you to create an account and keep payment methods saved, usually a credit card or PayPal details. Some accounts hold vast amounts of virtual items, that have values of up to thousands of dollars. This makes account holders a suitable target for hackers and phishing attempts with the aim of gaining possession of the

¹⁷ Armitage, C, 2016, *Nick Xenophon calls for curbs on teen gambling in eSports video games*, accessed 16/07/2018, <https://www.smh.com.au/technology/just-when-we-got-used-to-kids-dying-or-killing-on-screen-something-worse-came-along-20160728-gqfp5x.html>

¹⁸ McGhee, A, 2018, *Fortnite: Millions are playing it, but is addiction to the game really a thing?*, ABC, accessed 16/07/2018, <http://www.abc.net.au/news/2018-07-11/fortnite-is-addiction-really-a-thing/9981528>

¹⁹ Coote, G, 2018, *Fortnite survival game enthral children in battle of the consoles*, accessed 16/07/2018, <http://www.abc.net.au/news/2018-06-09/children-addicted-to-gaming-craze-fortnite/9851100>

²⁰ McCormack, A, 2018, *Gamers urge government to act on "gambling" loot boxes in video games*, ABC, accessed 17/07/2018, <http://www.abc.net.au/triplej/programs/hack/gamers-call-for-action-on-loot-boxes/9485856>

²¹ Alexandra, H, 2017, *Loot Boxes Are Designed To Exploit Us*, Kotaku, accessed 17/07/2018, <https://www.kotaku.com.au/2017/10/loot-boxes-are-designed-to-exploit-us/>

²² Sadler, D, 2018, *Senate looks into 'loot boxes'*, InnovationAus, accessed 17/07/2018, <https://www.innovationaus.com/2018/07/Senate-looks-into-loot-boxes>

digital assets and converting those assets to cash or stealing your credit card and account details.

As most developers will expressly prohibit the selling of accounts and items in their Terms of Service, there is little recourse for players who attempt to sell their accounts or virtual items and are scammed. There is therefore a huge incentive to scam players, because of the low likelihood of getting caught and the lack of recourse available to the victims. There are many examples of scams of increasing sophistication being utilised as a result.²³

There are also games designed with these mechanics that are purely scams, in the sense that the purported “chance” aspects of the loot crates are completely rigged to be zero or astronomically low. The danger is that if the consumer is not aware that this is the case, and keeps playing, they are being unfairly exploited.²⁴

4.2 E-Sports & Gambling

The rise in popularity of e-sports over the years has been underestimated with professional gamers earning substantial amounts in prize money with prize pools rivalling that of traditional professional sports such as tennis or cricket.²⁵ it should come as no surprise that there has been an increase in match fixing as a result of this.²⁶

There has also been some corruption with ‘streamers’ (which are a mix of commentator, presenter and entertainer that broadcast over the internet via video streaming websites) where they would promote e-sports gambling sites on their streams (shows) without letting the audiences know that they were being paid by, or had a stake in, those gambling sites. In one case a streamer was being told the outcomes of games in advance so that he could win more often and provide better ‘entertainment’ to his viewers (and also create a false perception of win rates from the site).²⁷ The key factor here is that loot crates were being used to facilitate some of the betting and gambling.

4.3 ‘Skin’ & Virtual Item Gambling

Probably the strongest case for regulation is where ‘skins’ (cosmetic patterns/outfits for items or characters, obtained from loot crates) are being gambled with online, substituting the need for real money. The scale of this is not to be underestimated as there have already been

²³ D’Anastasio, C, 2016, ‘*Watch Out For World Of Warcraft’s Newest Thieving Scam*’, Kotaku, accessed 24/07/2018, <https://www.kotaku.com.au/2016/07/watch-out-for-world-of-warcrafts-newest-thieving-scam/>

²⁴ This concept is explored deeper under the “Domestic Legislative Framework, Oversight & Considerations” section, under “Consumer Protection”

²⁵ See for example, <https://www.esportsearnings.com/players/highest-overall> which gives an indication of the earnings of some of the best e-sports players in the world.

²⁶ The Economist, 2017, *Match-fixing goes digital*, accessed 19/07/2018, <https://www.economist.com/international/2017/09/21/match-fixing-goes-digital>

²⁷ Above n 17.

international controversies involving CS:GO skin gambling with popular YouTube streamers who had an estimated reach of 10 million viewers.²⁸

The market is so lucrative that it was estimated to be worth approximately \$US 7.4 billion in 2016²⁹ which (combined with the scandals) triggered legal action from Valve, CS:GO's developer & publisher (and also the owner of the Steam Digital Distribution Platform ('DDP') through which the game is sold).³⁰ Following the lawsuits, the 2017 estimates were revised down to only \$US 800 million in 2017.³¹ The figures are still alarmingly high, and It is also estimated that cash gambling on e-sports will merely fill the void left by skin gambling.³²

The crucial thing to be mindful of with this example is that Valve controls all aspects of the supply chain, being the developer, publisher and DDP for CS:GO. This would have granted them a significantly higher degree of power and insight into the issue than most developers would be likely to have in the same situation (due to the level of their vertical integration in the supply/distribution chain). The issue is not isolated to CS:GO alone with other popular titles such as *FIFA* having similar illegal gambling arising through the use of their virtual currency.³³

4.4 Conversion: Digital Items to Real-World Currency

It is also possible to convert in-game items and currency into real-world money through the use of third party websites who act as 'middle-men'³⁴ This is a critical process because without the ability to trade the virtual items, it becomes a lot harder to make the argument that this is gambling. It is best to compare it to how you 'cash-in' and 'cash-out' at a casino:

²⁸ Ibid.

²⁹ Grove, C, 2016, *Skin Gambling Crackdown, Controversies, Likely To Shave Billions From Market For Esports Gambling*, LinkedIn, accessed 18/07/2018, <https://www.linkedin.com/pulse/skin-gambling-crackdown-controversies-likely-shave-billions-grove>

³⁰ Above n 17.

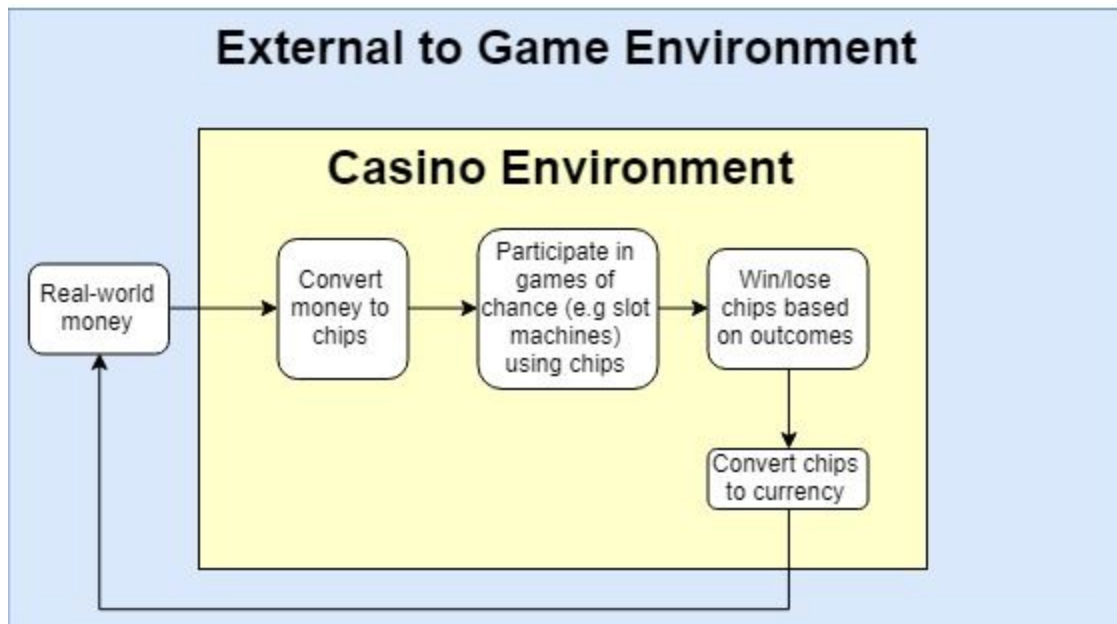
³¹ Above n 29.

³² Ibid.

³³ Phillips, T, 2017, *Youtuber pleads guilty to FIFA gambling charges*, EuroGamer, accessed 18/07/2018, <https://www.eurogamer.net/articles/2017-02-06-youtuber-pleads-guilty-to-fifa-gambling-charges>

³⁴ I use the term 'middle-men' loosely here as there are infinite variations of grey markets ranging from mere platforms where players can advertise items for trade (such as <https://rocket-league.com/trading>) to full blown commercial operations of enormous scale (see <https://www.g2a.com/> and search for "skins" for example or any virtual currency or item).

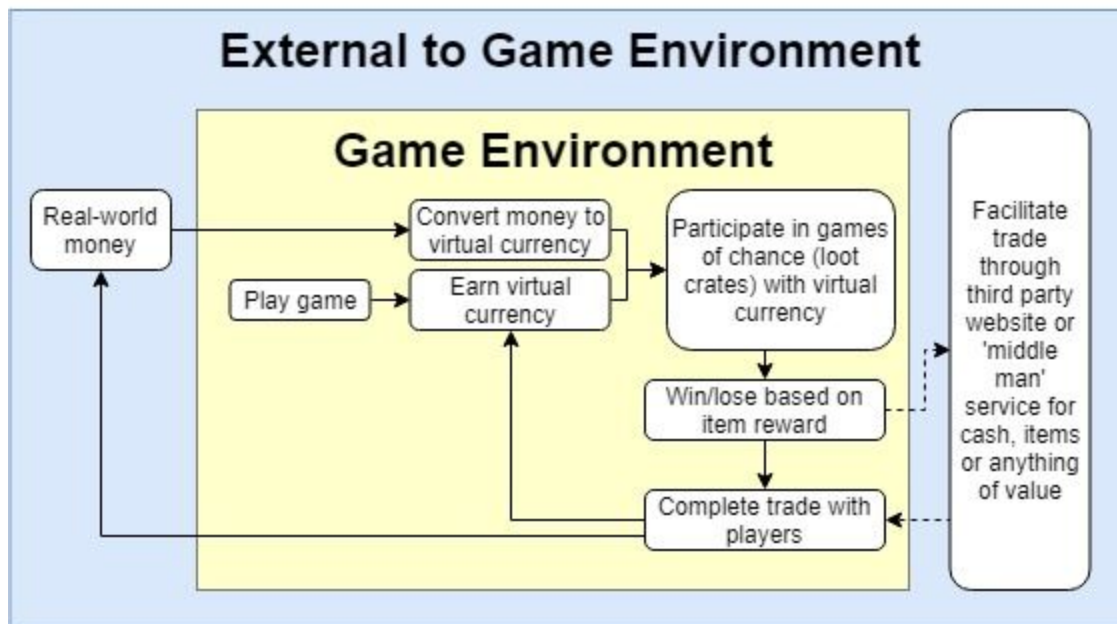
Fig. 8: Flowchart of Currency Conversion in Casino Environment



The above chart serves to illustrate the basic processes through which a consumer can convert their cash into casino currency or “cashing in” in order to partake in games of chance, and then how they can convert that currency back into cash or “cash out”.

The above example is self-explanatory, but consider now how you ‘cash-in’ and ‘cash-out’ in a gaming context:

Fig.9 : Flowchart of Currency Conversion in Game Environment



The above chart is very similar to Fig. 8 however there is simply an extra ‘layer’ added where players can earn virtual currency through gameplay in addition to being able to earn it with real-world money. The “cashing out” process of converting the items back into cash also has another layer, as there is the option of utilising a 3rd party service to convert the items into anything else.

The above example is slightly more complex than the casino example used before, because there are extra steps required in order to ‘cash out’. The whole conversion is possible because developers allow trades between players in game, for virtual items/currency. This process is already being utilised by consumers as evidenced in the “skin gambling” section above. The article ‘*When it comes to FIFA 18 you can most definitely cash out*’ by Yin-Poole illustrates how the conversion process can be done for FIFA 18.³⁵ For examples of ‘middle-man’ and ‘grey market’ services see footnote 34.

5. Domestic Legislative Framework, Oversight & Considerations

With the issues of loot crates identified, the question arises as to what our domestic agencies and legislation are doing to address loot crates? Are they equipped to adequately deal with any issues arising or is new legislation required?

5.1 Legislation and Regulatory Bodies

5.1.1 Consumer Protection

The Australian Competition and Consumer Commission (‘ACCC’) is an independent statutory body responsible for consumer protection and the enforcement of the *Competition and Consumer Act* 2011 (Cth)³⁶, which contains the *Australian Consumer Law* (‘ACL’).

The law is considered extremely powerful in the sense that it contains provisions expressly preventing the opting out of the requirements set in the Consumer Law. This is especially important because most games are subject to standard form End User Licence Agreements (‘EULAs’) or Terms of Service, which will often contain a jurisdictional clause which aims to get the user to subject themselves to a foreign jurisdiction’s power which is most often favourable to the developer/publisher, and places the end user at significant disadvantage due to the costs of obtaining legal advice and enforcement if a dispute arises.

The *misleading and deceptive conduct* provisions are most relevant to microtransactions and loot crates generally as we have seen some foreign decisions based on similar principles.³⁷ It is difficult for the consumer (or end user) to know if they are being deceived or misled at all because they do not have access to the information required to establish this as a fact.

³⁵ Yin-Poole, W, 2017, ‘*When it comes to FIFA 18, you can most definitely cash out*’, Eurogamer, accessed 24/07/2018, <https://www.eurogamer.net/articles/2017-10-23-when-it-comes-to-fifa-18-you-can-most-definitely-cash-out>

³⁶ Australian Competition and Consumer Commission, *About Us*, accessed 16/07/2018, <https://www.accc.gov.au/about-us/australian-competition-consumer-commission/about-the-accc>

³⁷ Ji-young, S, 2018, [News Focus] *Nexon Korea to challenge FTC’s hefty penalty*, Korean Herald, accessed 13/07/2018, <http://www.koreaherald.com/view.php?ud=20180402000884>

Consider all the ways in which one could attempt to find the information about loot crate item probabilities or 'drop rates', and look at the barriers that a consumer would face:

- Loot crate drop rates are not disclosed by developers;
- Drop rates disclosed in other jurisdictions can be different in other regions of the world, limiting their usefulness as a source of information;
- Drop rate information contained in the game's code is obfuscated (non-human readable & encrypted)
- A user would require specialist IT skills in order to be able to de-obfuscate the computer code (technical barrier), and
- De-obfuscating or reverse engineering a game's code is generally prohibited under the developer's EULA or ToS (legal barrier); and
- The developer can easily change the loot tables and drop rates through patches or updates, rendering any previously obtained data obsolete.

So in essence, through the use of information, technical and legal barriers, the developer's retain all of the power and the consumer is generally in a position of ignorance. Any suspected deception can be reported, but it would be speculative rather than concrete. Whilst I understand the need for developers to protect their proprietary information, there should be some form of oversight to establish that the items advertised as being in a loot crate are in fact obtainable, and do not have a win/drop rate of say 0%.

The fact that many titles are cheap or completely free, makes it even more difficult to warrant investigation and enforcement as the direct quantifiable damages are low (perhaps you could recover the cost of the microtransaction). Unless it can be shown that the issue(s) are widespread, it may inhibit decisions to investigate or prosecute breaches given the expenses these avenues would carry, as well as the difficulty in obtaining evidence.

So unless the developer's make some clear errors in their advertising or other representations about loot crates, it is unlikely that this area of regulation or enforcement will be of any great help in dealing with the loot crate issue.

5.1.2 Gambling Legislation and Authorities

Gambling legislation within Australia has been described as a mixture of Commonwealth, State and Territory laws, with there being over 14 pieces of legislation covering the state of NSW alone.³⁸

There is some indication that loot crates may constitute gambling under Victorian gambling legislation, according to a statement from one of the Victorian Commission for Gambling and

³⁸ Huby J & Cameron B, 2018, 'Loot boxes': a new form of gambling?, HWL Ebsworth Lawyers, accessed 13/07/2018, <http://hwlebsworth.com.au/loot-boxes-a-new-form-of-gambling/>

Liquor Regulation's ('VCGLR') strategic analysts.³⁹ The analyst also raised concerns about the enforceability of the legislative provisions where the developer or publisher is based overseas.⁴⁰ One suggestion he proffered is to utilise the Classification Board where there were significant elements of gambling within a game. The idea would be to rate the items 'R18+' which would support the objectives of gambling legislation, namely to discourage children from gambling.⁴¹ Officially, the Commission is aware of the issues and investigating, although no determination has been made.⁴²

The Queensland Officer of Liquor and Gaming Regulation ('OLGR') is also investigating but has cited that loot crates "may constitute an interactive game within the definition provided in Queensland's Interactive Gambling (Player Protection) Act 1998".⁴³ Liquor and Gaming NSW has been quoted as "actively looking' into the issue of loot crates".⁴⁴

Ultimately, every state's gambling regulator has stated that they are aware of loot crates as an issue, but there have been no determinations yet.⁴⁵

5.1.3 Classification Board & Authority

The Australian Classification Board is an independent statutory body responsible for rating films, computer games and other publications according to the *National Classification Code 2005* (Cth) (the 'Code').⁴⁶ The Board can also offer consumer advice to accompany age-rating labels. This advice will usually indicate the elements or themes which resulted in the classification.

The Board is formed through the *Classification (Publications, Films and Computer Games) Act 1995* (Cth) ('the Act') which also sets out how classification decisions are to be made. All states have enabling legislation which mirrors the core features of the Commonwealth Act albeit with slight variations.⁴⁷ This all forms part of the National Classification Scheme.⁴⁸

The Code sets out some key principles that classification decisions need to give effect to:

³⁹ Walker, A, 2017, *Victoria's Gambling Regulator: Loot Boxes 'Constitute Gambling'*, Kotaku, accessed 16/07/2018, <https://www.kotaku.com.au/2017/11/victorias-gambling-regulator-loot-boxes-constitute-gambling/>

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² McCormack, A, 2017, *Loot boxes, video game 'gambling': How game developers are after your money*, ABC, accessed 17/07/2018, <http://www.abc.net.au/triplej/programs/hack/loot-boxes/9185942> and Carter, M, 2017, *'Loot boxes' and pay-to-win features in games look a lot like gambling*, ABC, accessed 17/07/2018, <http://www.abc.net.au/news/2017-11-28/pay-to-win-gaming-features-look-like-gambling/9201386>

⁴³ Above n 20

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Australian Classification Board, 2018, *who we are*, accessed 16/07/2018, <http://www.classification.gov.au/About/Pages/Who-We-Are.aspx>

⁴⁷ Australian Classification Board, 2018, *State and Territory Legislation*, accessed 16/07/2018, <http://www.classification.gov.au/About/Pages/State-and-Territory-Legislation.aspx>

⁴⁸ Australian Classification Board, 2018, *National Classification Scheme*, accessed 16/07/2018, <http://www.classification.gov.au/About/Pages/National-Classification-Scheme.aspx>

1. Adults should be able to read, hear, see and play what they want;
2. minors should be protected from material likely to harm or disturb them;
3. everyone should be protected from exposure to unsolicited material that they find offensive;
4. the need to take account of community concerns about:
 - 4.1. depictions that condone or incite violence, particularly sexual violence; and
 - 4.2. the portrayal of persons in a demeaning manner.

Further, the board has 3 principles which informs it when arriving at a decision:⁴⁹

1. The importance of the context,
2. assessing the impact,
3. The six classifiable elements (drug use, language, nudity, themes, sex, and violence)

Under the National Classification Framework it is prohibited to sell restricted games to minors.⁵⁰ This includes age restricted or objectionable content digitally, via a 'computer service'.⁵¹ Whilst you do not have to have a game classified, it is still illegal to sell it if it would be rated as 'restricted' (Category 1 or 2) or 'refused classification' ('RC') under these same provisions.

Where games are unclassified, the various state and territory legislation has 'call in' provisions allowing for the minister (or relevant person/body) to 'call in' the film/game/publication for classification.⁵²

It would appear that there is sufficient legal framework for the Classification Board to effectively deal with computer games under the National Framework and this could in theory apply to loot crates and microtransactions where the gambling or online 'themes' element was sufficient enough to warrant a sufficiently high classification with an appropriate piece of consumer advice.

In practice however, I have found no evidence that the Board considers loot crate mechanics or microtransactions to be gambling, and where games were clearly meant to simulate gambling, the relevant restrictions and consumer advice was simply "M" with "Simulated Gambling" as the consumer advice warning (as opposed to say R18+).⁵³

⁴⁹ Australian Classification Board, 2018. *Classification Board*, accessed 16/07/2018, <http://www.classification.gov.au/About/Pages/Classification-Board.aspx>

⁵⁰ See, for example, *Classification (Publications, Films and Computer Games) Enforcement Act 1996* (WA), s88

⁵¹ See, for example, *Classification (Publications, Films and Computer Games) Enforcement Act 1996* (WA), s101-102

⁵² See, for example, *Classification (Publications, Films and Computer Games) Enforcement Act 1996* (WA), pt 7A

⁵³ The board's classification ratings are public record, simply searching various titles such as "Casino" will indicate their approach, however searching other titles that have microtransactions and/or loot crate mechanics do not carry the same warnings. See for example <http://www.classification.gov.au/Pages/Results.aspx?q=casino&t=lfc> versus <http://www.classification.gov.au/Pages/Results.aspx?q=rocket+league&t=lfc>

The issue with only classifying these types of games as ‘M’ or ‘MA15+’ still vague and generally not understood by parents of children with the *Digital Australia Report 2018*⁵⁴ finding that 62% of parents reported finding the ‘M’ and ‘MA15+’ ratings confusing.⁵⁵

It would appear that the reason microtransactions and gambling is not being efficiently labelled is due to limitations with the scope set by legislation and the Code (e.g. gambling not being one of the six classifiable elements, and loot crate mechanics generally not being the ‘main purpose’ or ‘key theme’ of these games). Indeed, we have seen other international regulators voice similar concerns about legislative limitations, despite them finding that there is risk potential for children.⁵⁶

5.1.4 Australian Classification and Media Authority (‘ACMA’)

The ACMA is the independent federal body responsible for regulating a vast majority of digital services including telecommunications and broadcast infrastructure, radiofrequency spectrum allocation and the *Interactive Gambling Act 2001* (Cth).⁵⁷ In 2017 there were also reforms, which extended the powers of the Act in order to target illegal offshore gambling.⁵⁸

When the ACMA was questioned their position on loot crates, they stated that they were not classified as ‘gambling services’ for the purposes of the Act because “they are not ‘played for money or anything else of value’. That is, the game is not played with the object of winning money or other valuable items.”⁵⁹

Despite the power that the Act grants, the ACMA still has some difficulties in policing illegal online betting due to many of these companies using Australian domain names, but domain name enforcement being outside of their jurisdiction.⁶⁰ If loot crates came under the Act’s jurisdiction for being gambling, the ACMA could face similar issues.

5.1.5 NSW Law Reform Commission

The issue of loot crates was considered in a report by the NSW Law Reform Commission as early as 2011⁶¹. The key commentary that discusses online gaming, notes concerns regarding

⁵⁴ Brand, J. E., Todhunter, S. & Jervis, J. (2017). *Digital Australia 2018*. Eveleigh, NSW: IGEA., accessed 17/07/2018, <http://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf>

⁵⁵ Ibid, pg 23.

⁵⁶ Refer to the “International Approaches and Considerations” section for the various bodies’ opinions on the matter.

⁵⁷ ACMA, Interactive Gambling, accessed 13/07/2018, <https://www.acma.gov.au/Citizen/Complaints/Internet-complaints/Interactive-gambling>

⁵⁸ ACMA, Interactive Gambling Act reforms, accessed 13/07/2018, <https://www.acma.gov.au/Industry/Internet/Internet-content/Interactive-gambling/interactive-gambling-act-reforms>

⁵⁹ Walker, A, 2017, *Australia’s Telco Regulator Is Keeping An Eye On Loot Boxes*, Kotaku, accessed 13/07/2018, <https://www.kotaku.com.au/2017/11/australias-telco-regulator-is-keeping-an-eye-on-loot-boxes-too/>

⁶⁰ Kerr, J, 2018, *Online betting sites using Cocos Islands web addresses investigated over possible breach*, ABC, accessed 18/07/2018, <http://www.abc.net.au/news/2018-07-18/offshore-betting-sites-using-cocos-islands-web-addresses/9995610>

⁶¹ New South Wales Law Reform Commission, 2011, *Cheating at gambling*, accessed 13/07/2018, <http://www.lawreform.justice.nsw.gov.au/Documents/Publications/Reports/Report-130.pdf>

enforcement of regulations on overseas operators (at [3:19]) as well as a section dedicated to “Virtual Reality Gambling” which is where the discussion regarding virtual currencies and loot crates occurs (at [3:49] to [3:52]). The Commission indicated that it could constitute gambling citing MMO games such as *World of Warcraft* and *Second Life* but left the responsibility ultimately to the Commonwealth (at [3:49-3:50]). The Commission also mentioned games on Facebook that are not gambling because of the lack of ability to convert the virtual currency back into real-world money. Despite this, they do note concerns that this could lead minors into unlawful online gambling ([3:52]).

The report is dated by now and the markets have changed significantly, however it does serve to indicate that these issues were present within the Australian context as early as 2011.

5.1.6 Australian Taxation Office

As far as I am aware, the Australian Taxation Office does not recognise virtual currency as declarable income or an asset. However, they are starting to recognise the role cryptocurrencies play in the market and the tax implications thereof.⁶²

5.2 Industry Bodies

5.2.1 Interactive Games and Entertainment Association

The Interactive Games and Entertainment Association (‘IGEA’) is an Australian Industry Association. They argued that loot crates are not gambling because you always get something. For example, a trading card game where you get a card that you may not want because you already have it, compared to the lottery where if you lose you do not get anything.⁶³

6. International Approaches and Considerations

Whilst loot crates have managed to evade domestic agencies for the time being, microtransactions and loot crates have been the subject of significant interest from international countries and several have already passed laws or some types of reform.

⁶² Australian Taxation Office, Tax treatment of cryptocurrencies, accessed 13/07/2018, <https://www.ato.gov.au/General/Gen/Tax-treatment-of-crypto-currencies-in-Australia---specifically-bitcoin/>

⁶³ Above n 22 .

6.1 International Jurisdictional Regulation

6.1.1 Japan

Some of the earliest legislative reform I could locate stems from Japan's ban on 'complete gacha' mechanics in games, from July 2012.⁶⁴ These 'gacha' are analogous to 'loot crates' and come in varying forms and iterations.⁶⁵ Some believe that 'gacha' were the seed that gave rise to the 'loot crate' in Western culture.⁶⁶ The reasons for the ban seems to follow a long history of legislation aimed at protecting children from gambling and addiction, stemming from physical trading card games and other games of chance. The article *'Japan's social-gaming industry hindered by government's anti-gambling move'* from the Japan Times outlines the topic in context.⁶⁷

6.1.2 South Korea

Loot crates have come under scrutiny from South Korea's Fair Trade Commission, with reports of some of the biggest companies there being fined for misleading and deceptive loot crates.⁶⁸ The issues came down to deception with regards to the companies' uses of "random prize" to be interpreted as "equal probability" where in fact the probabilities varied significantly.

It is important to note that these mechanics were caught through existing consumer protection laws rather than any specific area of reform.

6.1.3 China

China's major regulations came into effect in 2017⁶⁹ and set out the following requirements:

1. Loot crates cannot be acquired with real money or virtual currency;
2. virtual items and other services offered in loot crates must be obtainable by other means, e.g., earned through gameplay or for earning achievements;

⁶⁴ Pearson, D, 2012, *Japan formalises 'complete gacha' ban Randomised item mechanic made illegal by Consumer Affairs Agency*, gamesindustry.biz, accessed 13/07/2018, <https://www.gamesindustry.biz/articles/2012-05-18-japan-formalises-complete-gacha-ban>

⁶⁵ There are various iterations of these mechanics, for descriptions and further research please see https://en.wikipedia.org/wiki/Gacha_game

⁶⁶ Hood, V, 2017, *What the UK can learn from the Far East's battle with loot boxes Laying down the law*, Eurogamer, accessed 13/07/2018 <https://www.eurogamer.net/articles/2017-10-19-what-the-uk-can-learn-from-the-far-east-battle-with-loot-boxes>

⁶⁷ Akimoto, A, 2012, *Japan's social-gaming industry hindered by government's anti-gambling move*. Japan Times, Accessed 13/07/2018, <https://www.japantimes.co.jp/life/2012/05/16/digital/japans-social-gaming-industry-hindered-by-governments-anti-gambling-move/#.W0gOzdUzY3E>

⁶⁸ Above n 37.

⁶⁹ Tang, T, 2018, *China: A Middle-Ground Approach: How China Regulates Loot Boxes And Gambling Features In Online Games*, Mondaq, accessed 13/07/2018, <http://www.mondaq.com/china/x/672860/Gaming/A+MiddleGround+Approach+How+China+Regulates+Loot+Boxes+and+Gambling+Features+in+Online+Games>

3. game publishers must in a timely manner, and truthfully, publicize information such as names, functions and quantity of virtual items or other services offered in loot crates, as well as the probability of winning; and
4. loot crates results must be publicly disclosed and their records must be kept by game publishers/operators for no less than 90 days.

The effectiveness of these laws came into question as publishers are quickly able to adapt their titles to new legislation and exploit loopholes. This can be demonstrated by the game publisher Blizzard circumventing the new laws for their title ‘*Overwatch*’ by removing loot crates for purchase, and instead giving them to players ‘for free’ when they purchase virtual currency.⁷⁰ Whilst technically legal, it exploits poor legislative drafting in order to avoid triggering the legislation.

The second issue that stems from these laws is that there is speculation amongst some consumers that the odds for loot crates in China may be altered to appear higher in this region, so that players in other jurisdictions believe that their odds are the same, despite the odds being different in that particular geographical location. As with Blizzard’s approach to *Overwatch* in China, publishers are already able to edit game features to target particular geographical markets, so despite there being no concrete evidence of this occurring, there is the distinct possibility that this can occur.

6.1.4 United Kingdom

The Gambling Commission released a discussion paper in 2016⁷¹ followed by a position paper in 2017 which covered the topic in detail.⁷²

Some key points from the Commission’s Position Paper:

1. The ability to convert in-game items to cash or trade them for other items of value, means that the items hold real-world monetary value (see [3.8]),
2. Where facilities for gambling using these items are offered (even on a third party platform), a licence is required (see [3.8]),
3. The operation of these online betting websites using items “creates a situation where children are readily able to able to access activities commonly accepted as being appropriate only for adults in tightly regulated environments” (see [3.9]),

⁷⁰ Handrahan, H, *Blizzard avoids China's loot laws by selling Overwatch in-game currency In-game currency will now be sold for real money, with loot boxes thrown in for free*, Gamesindustry.biz, accessed 13/07/2018,

<https://www.gamesindustry.biz/articles/2017-06-06-blizzard-avoids-chinas-loot-box-laws-by-selling-in-game-currency>

⁷¹ Gambling Commission, 2016, *Virtual currencies, eSports and social gaming – discussion paper*, accessed 13/07/2018, <http://www.gamblingcommission.gov.uk/PDF/consultations/Virtual-currencies-eSports-and-social-gaming-discussion-paper-August-2016.pdf>

⁷² Gambling Commission, 2017, *Virtual currencies, eSports and social casino gaming – position paper*, accessed 13/07/2018, <http://www.gamblingcommission.gov.uk/PDF/Virtual-currencies-eSports-and-social-casino-gaming.pdf>

4. There have been prosecutions of the individuals who ran the FutGalaxy website under the gambling legislation, with the case being one of the most serious that Commission has seen (see [3.10]),
5. There is a clearly established role that social media; in particular video sharing platform; plays in the promotion of these websites (see [3.11]).
6. The ability to exchange in-game items on secondary markets carries the risks of drawing game elements into the definitions of gambling (see [3.17]).
7. “The payment of a stake (key) for the opportunity to win a prize (in-game items) determined (or presented as determined) at random bears a close resemblance, for instance, to the playing of a gaming machine. Where there are readily accessible opportunities to cash in or exchange those awarded in-game items for money or money’s worth those elements of the game are likely to be considered licensable gambling activities.” (see [3.17])
8. “Additional consumer protection in the form of gambling regulation, is required in circumstances where players are being incentivised to participate in gambling style activities through the provision of prizes of money or money’s worth. Where prizes are successfully restricted for use solely within the game, such in-game features would not be licensable gambling, notwithstanding the elements of expenditure and chance.” (see [3.18])

It becomes evident that the Commission clearly believes that items from loot crates do hold real world value and when used to gamble with, will fall within the scope of existing gambling legislation however they fall short of specifically stating that loot crate mechanics combined with the ability to trade the items from them, constitute gambling. They merely state that it *may* constitute gambling.

6.1.5 Germany

It appears that loot crates were first being considered by regulators and policymakers in Germany in late 2017, with both the German Age Rating Board (‘USK’) and the Federal Review Board for Media Harmful to Minors (BPjM) releasing statements on the matter, with the former reaching the conclusions that loot crates did not constitute gambling and the latter mentioning that they do have the power to make decisions in this area but being rather non-committal otherwise⁷³

The issue was then raised in the Bavarian parliament, which tasked the Bavarian State Ministry for Labor and Social Matters, Family and Integration (‘KJM’) to investigate. There were indications from the KJM that loot crates could potentially breach laws prohibiting direct appeals to buy products directed towards minors.⁷⁴

⁷³ Baker McKenzie, 2018, Loot Box Regulation - Germany's KJM issues its Decision, accessed 16/07/2018, https://www.bakermckenzie.com/-/media/files/insight/publications/2018/03/al_germany_lootboxregulation_mar18.pdf?la=en

⁷⁴ Schwidessen S, 2018, *Loot Box Regulation - Germany's KJM Issues Its Decision*, B:Inform, accessed 16/07/2018, <http://www.bakerinform.com/home/2018/3/26/jbw8stgo033r3elpyb6vlpwkis7/#page=1>

The official KJM statement was released on 23 March 2018. Some key points from it are:⁷⁵

- Loot crates under certain circumstances could violate the law regarding direct appeals to buy products directed towards minors;
- Loot crates under certain circumstances could violate the law regarding advertisements towards minors not being harmful or exploiting their inexperience;
- Some of the games are not within the scope of the legislation because they are rated 16+ and therefore not targeted at minors.
- The KJM is not responsible for consumer protection, gambling regulation or addiction prevention.⁷⁶

Ultimately none of the games complained about breached the law, even where loot crate mechanics were present. This leaves open the possibility that a game could in the future be in breach, however the threshold set by the KJM appears to be pretty high.

6.1.6 Netherlands

In a press release dated 19 April 2018⁷⁷, De Kansspelautoriteit (the Dutch Gaming Authority) found that four out of ten loot crates were contravening the Betting and Gaming Act. The games were selected on the basis of being the top 10 most viewed games on a popular streaming service. A deadline was set for 20 June 2018 for remedial action, with the Gaming Authority commencing enforcement proceedings from that date onwards.

The key elements considered in reaching their decision:

1. Coincidence determines the contents of these loot crates, and
2. the prizes can be traded outside the game (therefore the prizes have economic value), and
3. It is forbidden to offer this type of games of chance without a license to the Dutch players.

The Gaming Authority also found that there may be a connection between loot crates and the development of addiction. Additionally, they required publishers to:

1. Remove the addiction-sensitive elements ('near-profit' effects, visual effects, the possibility to keep open loot crates in quick succession, etc.) from the games, and

⁷⁵ Ibid.

⁷⁶ Above n 73.

⁷⁷ De Kansspelautoriteit, 2018, *Sommige loot boxes in strijd met kansspelwet* (translates to: *Some loot boxes conflict with gambling law*), accessed 13/07/2018, <https://www.kansspelautoriteit.nl/nieuws/alle-nieuwsberichten/2018/april/artikel-0/>. For a secondary article in English please refer to: Yin Poole, W, 2018, *The Netherlands declares some loot boxes are gambling - Tells publishers to modify them*, accessed 13/07/2018, <https://www.eurogamer.net/articles/2018-04-19-the-netherlands-declares-some-loot-boxes-are-gambling>

2. Take measures to exclude vulnerable groups.

These steps were required to demonstrate that the loot crates are ‘harmless’.

These findings stem from a report that the Gaming Authority commissioned titled “*Study into loot crates: A treasure or a burden?*” (english version available)⁷⁸ which provides invaluable insights and perspectives into the terms of reference of this topic.

6.1.7 Belgium

In a press release dated 25 April 2018⁷⁹, the Belgian Gaming Commission has declared that loot crates are a form of gambling and therefore subject to Belgian gambling laws. Their sale was therefore illegal.

Specific titles that were analysed by the Commission:

- FIFA 18,
- Overwatch,
- CS:GO, and
- Battlefield 2

All of the above titles with the exception of Battlefield 2 were found to have breached gambling legislation, with the latter being spared because the loot crate mechanics were removed from the game prior to the investigation.

The elements the Commission considers when defining a ‘game of chance’ are:

1. if there is a game element, and
2. a bet,
3. which can lead to profit or loss, and
4. chance has a role in the game

These elements are key to understanding the Commission’s approach as they do not seem to consider the ability to convert virtual items and currency into real-world currency (conversion element) and instead focus on the actual gambling aspects itself whereas other jurisdictions have considered conversion a key factor.

⁷⁸ De Kansspelautoriteit, 2018, *Study into loot boxes A treasure or a burden?*, accessed 13/07/2018. Report available for download in English from <https://www.kansspelautoriteit.nl/publicaties/onderzoeken/> (Dutch Gaming Authority publications page).

⁷⁹ Belgian Gaming Commission, 2018, *Loot boxes in three video games in violation of gambling legislation*, accessed 13/07/2018, <https://www.koengeens.be/news/2018/04/25/loot-boxen-in-drie-videogames-in-strjd-met-kansspelwetgeving> (the article is in Dutch). For a secondary article in English please refer to: Yin Poole, W, 2018, *Now Belgium declares loot boxes gambling and therefore illegal - Hazard warning*, accessed 13/07/2018, <https://www.eurogamer.net/amp/2018-04-25-now-belgium-declares-loot-boxes-gambling-and-therefore-illegal>

6.1.8 France

The French senator Jerome Durain requested that the French independent gambling authority ARJEL (Autorité de régulation des jeux en ligne) investigate loot crates in November 2017.⁸⁰ The regulator responded to these questions in their Activity Report 2017/18. An article by Sebastian Schwidlessen provides a discussion of their findings.⁸¹

The article explains that the regulator agreed that they (loot crates) undermine their policy objectives of the gambling legislation, on three main grounds:

1. Minors can play games which include loot crates without any age verification taking place,
2. loot crates give rise to habits and reflexes which introduce minors to real gambling as the spending of money in the hope of obtaining a certain item in order to make gameplay progress is an "apprenticeship" for betting and slot machines and
3. the random number generator which is responsible for determining which loot crates item is generated is non-transparent and could even be based on the players behavior and the exploitation of his personal data.

However they did not find that it contravened their gambling legislation due to the item or 'prize' from a loot crate needing to have real-world monetary value. It seems that the regulator chose to take a different stance to that of Belgium and the Netherlands where the fact that the items *could* be traded outside of the game environment was enough (a strict approach) and instead opted for a more liberal approach, accepting that the items have no real-world monetary value because the publisher does not allow them to be traded outside the game environment (through Terms of Service or End-User License Agreements).

6.1.9 USA

There have been several United States representatives seeking to introduce legislation to regulate loot crates with varying conditions, although so far all have been unsuccessful. The article '*USA: New Loot Box Bill Introduced ...Again*' by Sebastian Schwidlessen⁸² gives a summary of the approaches being considered. Some key points from the article:

⁸⁰ The letter requesting the investigation was uploaded by the Senator via Twitter (in French), accessed 13/07/2018, <https://twitter.com/Jeromedurain/status/931184414909923329>. For English discussion of the letter please refer to Makuch, E, 2017, *Star Wars Battlefront 2: French Senator Writes Letter To Gambling Authority Over Potential Concerns*, accessed 13/07/2018 <https://www.gamespot.com/articles/star-wars-battlefront-2-french-senator-writes-lett/1100-6455112/>

⁸¹ Schwidlessen S, 2018, *French gambling regulator releases its position on Loot Boxes*, accessed 13/07/2018, <https://www.linkedin.com/pulse/french-gambling-regulator-releases-its-position-loot-sebastian/>

⁸² Schwidlessen S, 2018, *USA: New Loot Box Bill Introduced ...Again*, accessed 13/07/2018, <https://www.linkedin.com/pulse/usa-new-loot-box-bill-introduced-again-sebastian-schwidlessen-ll-m-/>

- Bill by Washington Senators Ranker, Carlyle, and Keiser (Jan 11, 2018):
A bill aiming to get the Washington State Gambling Commission to conduct a study of the use of loot crates etc. (tentative/investigative approach)
- House Bill 2686 and Senate Bill 3024 (Jan 24, 2018):
A bill aimed at prohibiting games with loot crate mechanics to anyone under 21 years of age (age restricted approach)
- House Bill 2727 and Senate Bill 3025 (Jan 24, 2018):
A bill to ensure that probabilities or 'drop rates' are disclosed in games that feature loot crate mechanics. (transparency/informative approach)
- Bill AB 2194 (Feb 12, 2018):
A bill which would require labelling on the physical box of the games which contain microtransactions. (informative approach)
- Bill H.F. 4460 (Apr 24, 2018):
A bill which prohibits the sale of games with microtransactions and loot crates to anyone under 18 years of age. (age restricted approach)

There are concerns expressed by the author with regards to the legislators' understanding of the subject matter. As the author explains, most of these games are based on the F2P model and as such, are not sold. Which would mean that unless legislation is properly drafted, the games would not be subject to it because they are not "sold" (Similar to how Blizzard circumvented China's legislative reforms which were mentioned previously). Other approaches aimed at labelling physical game boxes in retail stores need to also consider the rapid rate of decline of physical box sales in favour of digital sales (see Annexure B).

Ultimately what the article shows is that the USA identifies that loot crates and microtransactions are an issue, however their broad spectrum of approaches shows that they are not quite sure how to approach the issue, with options ranging from total prohibition to merely utilising warning labels.

6.1.10 Apple (and Other Multinational Corporations)

Multinational companies have unprecedented size and power with some eclipsing small countries. Thus it would be prudent to include their self-regulation or positions on loot crates.

As of 2017, Apple changed its guidelines to include the requirement that "Apps offering "loot boxes" or other mechanisms that provide randomized virtual items for purchase must disclose the odds of receiving each type of item to customers prior to purchase."⁸³

⁸³ Apple, *App Store Review Guidelines*, s3.1.1, accessed 16/07/2018, <https://developer.apple.com/app-store/review/guidelines/#in-app-purchase>

Apple has adopted a ‘transparency/informative approach’ to loot crates and given the sheer size of their market share in the mobile game market, this was a huge development.

6.2 International Rating Agencies

6.2.1 ESRB

The Entertainment Software Ratings Board (‘ESRB’) is the United States’ rating agency, which is self-regulating and funded by its members.

In late 2017 the ESRB outlined its position that it does not consider loot crates to be gambling.⁸⁴ The main reason for its decision was that while there is an element of chance, the player will always receive something, and this is similar to how trading card games work in the real world (as compared to a lottery or slot machine where you get nothing if you lose).

The ESRB has two consumer advice warning labels: “Real gambling” (which is any sort of wagering involving real cash) and “Simulated gambling” (which is where the player can gamble without betting or wagering real cash or currency). Any game that features “real gambling” will receive an “adults only” rating.⁸⁵

On 27 February 2018 the ESRB released a tweet indicating that they were adding a new label to physical games “In-Game Purchases” which will be present whenever microtransaction mechanics are present.⁸⁶ This drew criticism from some as being a non-committal form of action⁸⁷ (especially as physical sales continue to decline rapidly in favour of digital sales, see Annexure B).⁸⁸ The same critics also draw attention to the potential conflict of interest where the ESRB’s members are some of the companies with the most successful microtransaction/loot crate strategies.⁸⁹

6.2.2 PEGI

The Pan European Game Information organisation (‘PEGI’) is the age rating organisation responsible for rating games in over 35 countries in Europe.⁹⁰

⁸⁴ Schreier, J, 2017, *ESRB Says It Doesn't See 'Loot Boxes' As Gambling*, Kotaku, accessed 18/07/2018, <https://www.kotaku.com.au/2017/10/esrb-says-it-doesnt-see-loot-boxes-as-gambling/>

⁸⁵ Ibid.

⁸⁶ ESRB, <https://twitter.com/ESRBRatings/status/968516416742805504>

⁸⁷ Harrison, C, 2018, *The ESRB's Response To Loot Boxes Is Useless*, Kotaku, accessed 18/07/2018, <https://www.kotaku.com.au/2018/03/the-esrb-response-to-loot-boxes-is-useless/>

⁸⁸ For an Australian contextual example see: Brand, J. E., Todhunter, S. & Jervis, J. (2017). Digital Australia 2018. Eveleigh, NSW: IGEA, pg 31., accessed 17/07/2018, <http://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf>

⁸⁹ Above n 87.

⁹⁰ PEGI, 2018, *pegi organisation*, accessed 18/07/2018, <https://pegi.info/page/pegi-organisation>

It has taken the position that it is not its responsibility to define loot crates as gambling, and that it is up to the various gambling commissions of member states. If they define loot crates as gambling, then PEGI would adjust their criteria accordingly.⁹¹

At the moment, the “gambling” content descriptor is given to games that simulate or teach gambling as it’s done in real life rather than the so-called simulated gambling that loot crates may be.⁹²

6.2.3 USK

The German Age Rating Board (‘USK’) is a self-regulating industry body responsible for rating games in Germany.⁹³

It reached the conclusion in 2017 that it has no competence to regulate loot crates but in its opinion, loot crates do not constitute gambling under applicable gambling laws.⁹⁴

7. Recommendations

Having considered all of the above evidence, I would make the following recommendations:

7.1 Recommendation 1: Make disclosure of odds on chance-based items mandatory

Simply by making odds disclosure mandatory, consumers will be in a far better position to decide whether or not they would like to partake in the game of chance. This would also have the benefit of flushing out any games with astronomically low odds with virtually no chance of winning. This would also mean that the ACCC could pursue developers who deliberately mislead consumers in this fashion. Another key benefit of this is that parents will be able to see these odds when children are asking them to purchase these chance-based items, and may make more informed decisions than merely utilising the classification ratings.

7.2 Recommendation 2: Put Gambling Safeguards in Place

By implementing mandatory safeguards on loot crates, such as limiting the number that can be opened within a certain timeframe, diminishing the effectiveness of “hook loop” mechanics by removing bright colours, lights and sounds (and other addictive elements), a lot of the extra ‘fun’

⁹¹ Palumbo A, 2017, *PEGI on Loot Boxes: We Can't Define What's Gambling, Only A Gambling Commission Can*, accessed 18/07/2018, <https://wccftech.com/pegi-loot-boxes-cant-define-gambling/>

⁹² Ibid.

⁹³ USK, 2018, accessed 18/07/2018, <http://www.usk.de/en/>

⁹⁴ Above n 73.

is taken out of the loot crate ‘experience’ which will lessen the likelihood that problem gambling behaviours form, or limits the damage that can be done by them in a short timeframe.

7.3 Recommendation 3: Expand the Classification Board’s Considerations

Including microtransactions with chance based items as a 7th classifiable element with a mandatory R18+ rating will automatically exclude minors from “material likely to cause harm” and enable adults to “...play what they want...” which are two of the main goals of the Classification Board. It will also force developers to make serious considerations as to who their target audience will be, namely if they choose to pursue loot crates they can only target adults, or they can remove the loot crates in favour of a lesser classification, such as MA15+ or M etc. potentially expanding their customer base.

7.4 Recommendation 4: Amend gambling legislation to expressly include chance-based microtransactions within the definition of “gambling”.

With amendments to include ‘chance based microtransactions’ (or some iteration of this) within the definitions of “gambling” in key legislation such as the *Interactive Gambling Act 2001* (Cth), the loot crate issue would immediately fall under the existing regulatory framework of the gambling authorities and the ACMA which already have all the mechanisms in place to investigate and enforce compliance.

This would ensure a greater degree of fairness is applied to the mechanics through legislation and oversight, as well as some form of protection for problem gamblers etc. Developers who find this as an unacceptable compliance barrier can elect to remove these mechanics from their games (to fall outside the jurisdiction of the legislation) or choose not to offer their products on the Australian market, opening up the market to more competition. This would also allow regulators to target distributors of these games rather than attempting to chase the various developers themselves, which helps with the effectiveness of enforcement as the distributors will start to self-regulate non-compliant titles out of their offerings as part of their risk management strategies.

8. Conclusion

Based on the available evidence I am of the firm belief that loot crates are simply another form of gambling and should be regulated as such. I reach this decision primarily on the basis that they are exposing Australians; children in particular; to a foreseeable and real risk of harm based on the deliberate and calculated implementation of 'hook loop' (or similar mechanics), within computer and mobile games. These addictive elements combined with the fact that developers allow the virtual items/currencies to be traded within games is where it clearly becomes gambling, because these items start to have real-world value. The rise of grey-markets and middle-man services is testament to this fact. I therefore reject the positions of the various boards and regulators who have claimed, that because developers do not expressly allow these trades outside of their titles, the items hold no value. It is the very decision of the developers who allow these items to be traded that has led to these issues forming, and they should be held to account accordingly.

I believe that the Australian regulatory system is capable of performing this task under the current gambling, consumer protection and national classification regimes, the only thing standing in the way is the expansion of the definition of gambling to expressly include loot crates. This would immediately open them up to gambling regulation and protect Australians accordingly. Other recommendations I would consider is to expand the Classification Board's considerations to include gambling (with its new expanded definition) as a 7th classifiable element which carries a mandatory R18+ rating, which allows adults to continue to consume it but protects minors. Lastly, I would also recommend the removal of all bright colours, sounds and other elements often combined with the opening of loot crates to reinforce the positive experience (and thus increase addiction), and make disclosure of the odds of winning particular items in the crates mandatory. The latter will allow for better informed consumers and better inform consumer protection regulators in this area. All of these recommendations are easy to implement and are relatively cost-effective. They also serve the principles of both gambling and classification legislation, namely protecting children from harm, whilst still allowing adults to partake in these activities in a regulated (rather than prohibited) environment. We are in a perfect position to lead all Western countries in this area of digital reform, but the question is whether we will stand up and take the lead, or let this opportunity pass us by.

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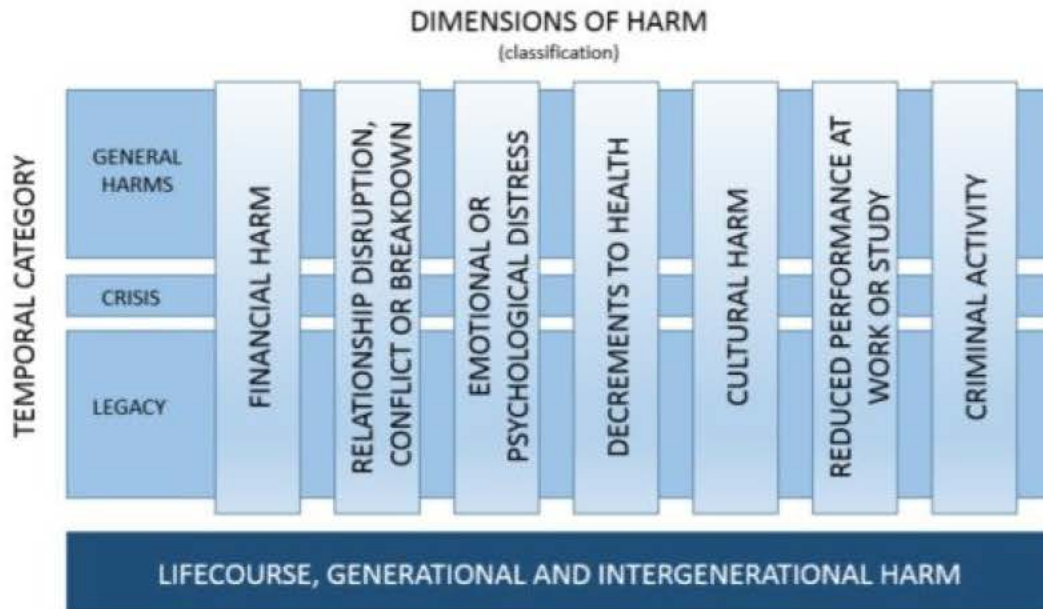
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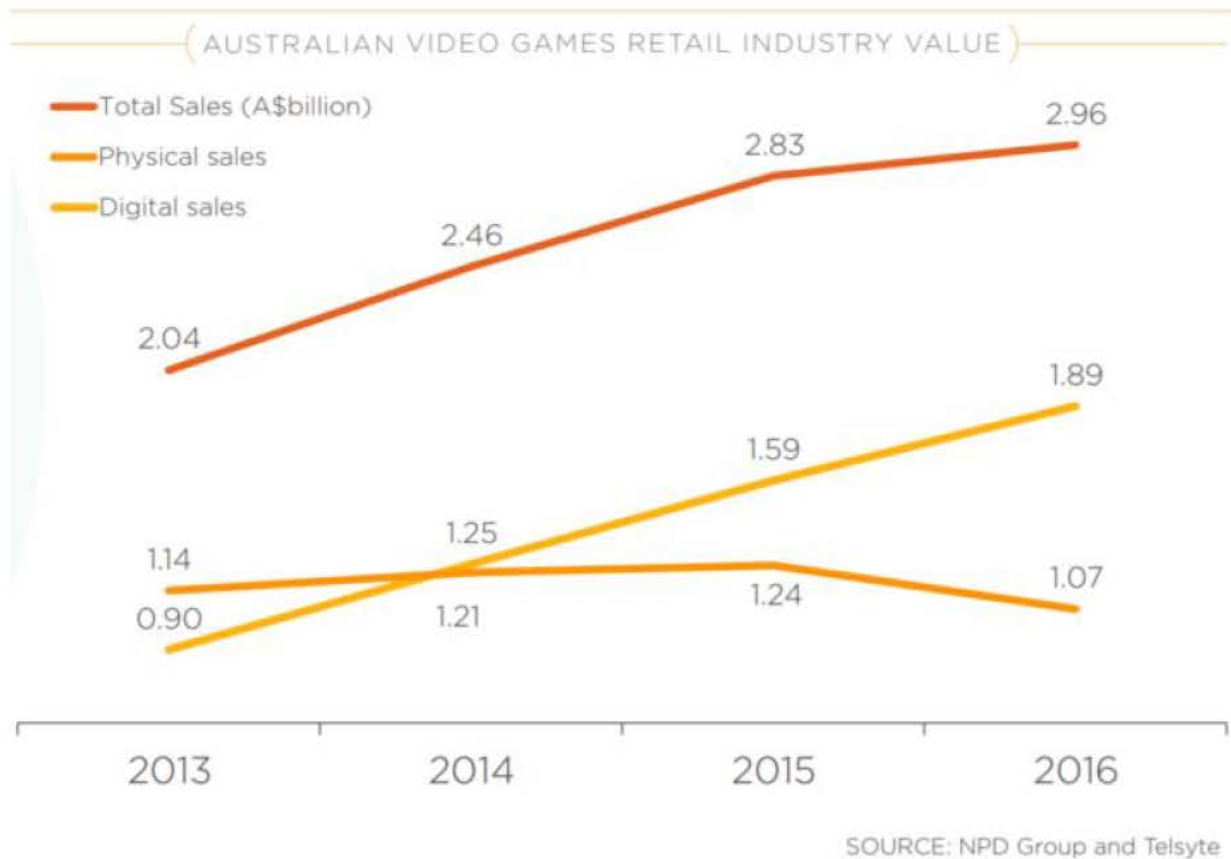
10. Annexures

Annexure A: Conceptual Framework of [Gambling] Harm



Source: Victorian Responsible Gaming Foundation, 2016, *Fact sheet 1: A conceptual framework of gambling harm*,
<https://responsiblegambling.vic.gov.au/resources/publications/fact-sheet-1-a-conceptual-framework-of-gambling-harm-165/>

Annexure B: AUS Sales Data, by Digital and Physical sales



Source: Brand, J. E., Todhunter, S. & Jervis, J. (2017). Digital Australia 2018. Eveleigh, NSW: IGEA, pg 31., accessed 17/07/2018, <http://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf>

Annexure C: Prevalence in Top 10 Titles 2014 - 2018

Prevalence of Monetisation Mechanics in Top 10 Titles, by type			
	Loot Crates*	Microtransactions	Paid DLC^
2014	6	9	9
2015	4	9	8
2016	8	9	8
2017	5	8	8
2018	5	8	8

* includes any form of loot crate or 'gacha' mechanic

^ Paid DLC broadly incorporates any additional content purchased before (Pre-orders, special editions etc) or after (expansions, bundles, soundtracks etc).

Annexure D: Prevalence in Top 20 Titles 2018

Prevalence of Monetisation Mechanics in Top 20 Titles of 2018 so far, by type			
	Loot Crate*	Microtransactions	Paid DLC^
2018	10	14	14

* includes any form of loot crate or 'gacha' mechanic

^ Paid DLC broadly incorporates any additional content purchased before (Pre-orders, special editions etc) or after (expansions, bundles, soundtracks etc).

Annexure E: Prevalence in 15 Popular Free to Play Titles

Prevalence of Monetisation Mechanics in 15 Popular F2P Titles, by type			
	Loot Crate*	Microtransactions	Paid DLC^
F2P	12	15	15

* includes any form of loot crate or 'gacha' mechanic

^ Paid DLC broadly incorporates any additional content purchased before (Pre-orders, special editions etc) or after (expansions, bundles, soundtracks etc).

Annexure F: Risk in Top 10 Titles 2014 - 2018

Risk of Predatory Monetisation Strategies in top 10 Titles, by severity, 2014 - 2018			
	High	Medium	Low
2014	6	3	1
2015	5	5	0
2016	8	1	1
2017	5	3	2
2018	5	3	2

* Risk factors are indicative only, based on quantity of monetisation strategies, and classification ratings

Annexure G: Risk in 2018 Top 20 Titles

Risk of Predatory Monetisation Strategies in top 20 Titles, by severity, 2018			
	High	Medium	Low
2018 Top 20	9	6	5

* Risk factors are indicative only, based on quantity of monetisation strategies, and classification ratings.

Annexure H: Risk in 15 popular Free to Play Titles

Risk of Predatory Monetisation Strategies in 15 Popular Titles, by severity			
	High	Medium	Low
15 Popular F2P	12	3	0

* Risk factors are indicative only, based on quantity of monetisation strategies, and classification ratings.

Annexure I: Source Data

Jan-May 2018 (Source: Academy of Interactive Arts and Sciences, 2018, <i>AIAS NPD Top 10 Video Game Sales</i>)							
Game	Release Date	Developer	Publisher	Loot Crates	Microtrans actions (excl. loot crates)	Paid DLC	Classifica tion
Far Cry 5	March 2018	Ubisoft	Ubisoft	No	Yes	Yes	MA15+
Grand Theft Auto V	September 2013	Rockstar Games	Rockstar Games	No	Yes	No	R18+
Tom Clancy's Rainbow Six: Siege	December 2015	Ubisoft	Ubisoft	Yes	Yes	Yes	MA15+
Mario Kart 8*	May 2014	Nintendo	Nintendo	No	Yes*	Yes	G
NBA 2K18	September 2017	Visual Concepts	2K Sports	Yes	Yes	Yes*	G
Call of Duty: WWII	November 2017	Sledgehammer Games	Activision	Yes	Yes	Yes	R18+
Super Mario Odyssey*	October 2017	Nintendo	Nintendo	No*	No	Yes*	PG
The Legend of Zelda: Breath of the Wild*	March 2017	Nintendo	Nintendo	No	No	Yes*	M
FIFA 18^	September 2017	Electronic Arts	Electronic Arts	Yes	Yes	No*	G
Playerunknown's Battlegrounds	March 2017	PUBG Corporation	PUBG Corporation, Microsoft Studios	Yes	Yes	Yes	MA15+
Monster Hunter: World	January 2018	Capcom	Capcom	No	Yes	Yes	M
God of War 2018	April 2018	SIE Santa Monica Studio	Sony Interactive Entertainment	No	No	No	MA15+
A Way Out^	March 2018	Hazelight Studios	Electronic Arts	No	No	No	MA15+
Sea Of Thieves	March 2018	Rare	Microsoft Studios	No	Yes	Yes	PG
Kirby Star Allies*	March 2018	HAL Laboratory	Nintendo	Unknown	Unknown	Unkn own	PG
MLB 18: The Show	March 2018	SIE San Diego Studio	Sony Interactive Entertainment	Yes	No*	Yes	G
Assassin's Creed: Origins	October 2017	Ubisoft	Ubisoft	Yes	Yes	Yes	MA15+
UFC 3	February 2018	Electronic Arts	Electronic Arts	Yes	Yes	Yes	MA15+
Dragon Ball: Fighterz	January 2018	Arc System Works	Bandai Namco	Yes	Yes	Yes	PG
Overwatch	May 2016	Blizzard Entertainment	Blizzard Entertainment	Yes	Yes	No	M

* there may be some uncertainty

^Red = High Risk, Yellow = Medium Risk, Green = Low Risk (of predatory monetisation strategies)

2017 Total (Source: Kain, E, 2018, *The Best-Selling Video Games Of 2017*, Forbes)

Game	Release Date	Developer	Publisher	Loot Crates	Microtransactions (excl. loot crates)	Paid DLC	Classification
Call of Duty: WWII	November 2017	Sledgehammer Games	Activision	Yes	Yes	Yes	R18+
NBA 2K18	September 2017	Visual Concepts	2K Sports	Yes	Yes	Yes*	G
Destiny 2^	September 2017	Bungie	Activision	Yes	Yes	Yes	M
Madden NFL 18	August 2017	Electronic Arts	Electronic Arts	Yes	Yes	Yes	PG
The Legend of Zelda: Breath of the Wild**	March 2017	Nintendo	Nintendo	No	No	Yes*	M
Grand Theft Auto V	September 2013	Rockstar Games	Rockstar Games	No	Yes	No	R18+
Tom Clancy's Ghost Recon: Wildlands	March 2017	Ubisoft	Ubisoft	Yes	Yes	Yes	MA15+
Star Wars: Battlefront II 2017^	November 2017	EA DICE	Electronic Arts	No*	Yes	No	M
Super Mario Odyssey**	October 2017	Nintendo	Nintendo	No*	No	Yes*	PG
Mario Kart 8**	May 2014	Nintendo	Nintendo	No	Yes*	Yes	G

* there may be some uncertainty

^Red = High Risk, Yellow = Medium Risk, Green = Low Risk (of predatory monetisation strategies)

2016 Total (Source: Tassi, P, 2017, *The Best-Selling Games Of 2016 Reveal A Few Surprises*, Forbes)

Game	Release Date	Developer	Publisher	Loot Crates	Microtransactions (excl. loot crates)	Paid DLC	Classification
Call of Duty: Infinite Warfare	November 2016	Infinity Ward	Activision	Yes	Yes	Yes	MA15+
Battlefield 1	October 2016	EA DICE	Electronic Arts	Yes	Yes	Yes	MA15+
The Division	March 2016	Massive Entertainment	Ubisoft	Yes	Yes	Yes	MA15+
NBA 2K17	September 2016	Visual Concepts	2K Sports	Yes	Yes	Yes*	G
Madden NFL 17	August 2016	Electronic Arts	Electronic Arts	Yes	Yes	Yes	G
Grand Theft Auto V	September 2013	Rockstar Games	Rockstar Games	No	Yes	No	R18+
Overwatch	May 2016	Blizzard Entertainment	Blizzard Entertainment	Yes	Yes	No	M
Call of Duty: Black Ops III	November 2015	Treyarch	Activision	Yes	Yes	Yes	R18+
FIFA 17	September 2016	Electronic Arts	Electronic Arts	Yes	Yes	Yes	G
Final Fantasy XV	November 2016	Square Enix	Square Enix	No	No*	Yes	M

* there may be some uncertainty

^Red = High Risk, Yellow = Medium Risk, Green = Low Risk (of predatory monetisation strategies)

<u>2015 Total</u> (Source: Makuch, E, 2016, <i>Top Ten Best-Selling US Games of 2015 and December Revealed</i> , Gamespot)							
Game	Release Date	Developer	Publisher	Loot Crates	Microtransactions (excl. loot crates)	Paid DLC	Classification
Call of Duty: Black Ops III	November 2015	Treyarch	Activision	Yes	Yes	Yes	R18+
Madden NFL 16	August 2015	Electronic Arts	Electronic Arts	Yes	Yes	Yes	G
Fallout 4	November 2015	Bethesda Softworks	Bethesda Softworks	No	Yes	Yes	MA15+
Star Wars: Battlefront	November 2015	EA DICE	Electronic Arts	No*	Yes	No	M
Grand Theft Auto V	September 2013	Rockstar Games	Rockstar Games	No	Yes	No	R18+
NBA 2K16	September 2015	Visual Concepts	2K Sports	Yes	Yes	Yes	G
Minecraft	May 2009	Mojang	Mojang, Microsoft Studios, Sony Computer Entertainment	No	Yes*	Yes*	M
Mortal Kombat X	April 2015	NetherRealm Studios	Warner Bros. Interactive Entertainment	No	Yes	Yes	R18+
FIFA 16	September 2015	Electronic Arts	Electronic Arts	Yes	Yes	Yes	G
Call of Duty: Advanced Warfare	November 2014	Sledgehammer Games	Activision	Yes	Yes	Yes	MA15+

* there may be some uncertainty

^Red = High Risk, Yellow = Medium Risk, Green = Low Risk (of predatory monetisation strategies)

<u>2014 Total</u> (Source: Kain, E, 2015, <i>The Top Ten Best-Selling Video Games Of 2014</i> , Forbes)							
Game	Release Date	Developer	Publisher	Loot Crates	Microtransactions (excl. loot crates)	Paid DLC	Classification
Call of Duty: Advanced Warfare	November 2014	Sledgehammer Games	Activision	Yes	Yes	Yes	MA15+
Madden NFL 15	August 2014	Electronic Arts	Electronic Arts	Yes	Yes	Yes	G
Destiny	September 2014	Bungie	Activision	Yes	Yes	Yes	M
Grand Theft Auto V	September 2013	Rockstar Games	Rockstar Games	No	Yes	No	R18+
Minecraft	May 2009	Mojang	Mojang, Microsoft Studios, Sony Computer Entertainment	No	Yes*	Yes*	M
Super Smash Bros (for 3DS and Wii U)	September 2014	Bandai Namco Studios, Sora Ltd.	Nintendo	No*	Yes	Yes	PG
NBA 2K15	October 2014	Visual Concepts	2K Sports	Yes	Yes	Yes	G
Watch Dogs	May 2014	Ubisoft	Ubisoft	No*	No*	Yes	MA15+
FIFA 15	September 2014	Electronic Arts	Electronic Arts	Yes	Yes	Yes*	G
Call of Duty Ghosts	November 2013	Infinity Ward et al.	Activision	Yes	Yes	Yes	MA15+

* there may be some uncertainty

^Red = High Risk, Yellow = Medium Risk, Green = Low Risk (of predatory monetisation strategies)

F2P Titles							
Game	Release Date	Developer	Publisher	Loot Crates	Microtransactions (excl. loot crates)	Paid DLC	Classification
Fortnite Battle Royale	July 2017	Epic Games	Epic Games, Gearbox Software, LLC	Yes	Yes	Yes	M
Dota 2	July 2013	Valve	Valve	Yes*	Yes	Yes	Unrated
Planetside 2	November 2012	Daybreak Game Company, Sony Interactive Entertainment	Daybreak Game Company, Sony Interactive Entertainment	Yes*	Yes	Yes	M
Path of Exile	October 2013	Grinding Gear Games	Grinding Gear Games	Yes	Yes	Yes*	MA15+
League of Legends	October 2009	Riot Games	Riot Games	Yes	Yes	Yes*	M
Hearthstone: Heroes of Warcraft	March 2014	Blizzard Entertainment	Blizzard Entertainment	Yes	Yes	Yes	PG
Star Wars: The Old Republic	December 2011	BioWare	Electronic Arts	Yes	Yes	Yes	PG
Forza Motorsport 6 Apex	March 2016	Turn 10 Studios	Microsoft Studios	Yes	Yes	Yes	G
World of Tanks	August 2010	Wargaming	Wargaming	Yes	Yes	Yes*	PG
War Thunder	December 2016	Gaijin Entertainment	Gaijin Entertainment	Yes	Yes	Yes	PG
Warframe	March 2013	Digital Extremes	Digital Extremes	No*	Yes	Yes	MA15+
Smite	March 2014	Hi-Rez Studios	Hi-Rez Studios	Yes	Yes	Yes	M
Eve Online	May 2003	CCP Games	Simon & Schuster	No*	Yes	Yes	PG
World of Warcraft	November 2004	Blizzard Entertainment	Blizzard Entertainment	No*	Yes	Yes	M
Heroes of the Storm	June 2015	Blizzard Entertainment	Blizzard Entertainment	Yes	Yes	Yes	M

* there may be some uncertainty

^Red = High Risk, Yellow = Medium Risk, Green = Low Risk (of predatory monetisation strategies)