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The Economic Policy Implications of Microtransactions and Loot Boxes

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Executive Summary

- The public debate about microtransactions and loot boxes in video games has so far almost completely ignored the economic aspects of the controversy. These are vital to consider before embarking on any public policy.
- The case for regulating microtransactions and loot boxes depends on establishing three facts: first, that these revenue models are the cause of serious public harm; second, that self-regulatory efforts by the video game industry to control them have failed, and third, that the benefits of regulatory intervention outweigh their costs and unintended consequences.
- None of the above three requirements for regulation has yet been satisfied.
- There is no evidence at present that microtransactions or loot boxes cause significant harm, whether to adults or to children.
- Self-regulatory efforts by industry leaders, partners, and other stakeholders around the world are underway, and have not yet been shown to have failed.
- Attempts at regulation by public authorities are likely to be counterproductive, and could harm the UK games industry, especially its small, independent, and innovative developers.
- Policymakers should exercise caution when attempting to formulate responses based on a small body of evidence and/or without due consideration of unintended consequences.
- Firms in the video games business must continue and even expand their self-regulatory efforts in the UK if they wish to remain independent and financially successful.

The Economic Policy Implications of Microtransactions and Loot Boxes

1) The basic facts of the controversy over microtransactions and loot boxes are now well known. They are briefly as follows: in November 2017, the beta test of *Star Wars: Battlefront II* generated massive backlash among both consumers and governments over its extensive use of “loot boxes,” randomized rewards paid for using real-world currency. *Battlefront II* publisher Electronic Arts (EA) in particular was singled out for criticism, so much so that it was obliged to remove the loot box system from the game before its official launch. However, the controversy over loot boxes spread throughout the industry and the world, with a large number of countries and territories launching their own investigations, publishing position statements, and actively drafting and passing legislation designed to curb the use of loot boxes and limit their availability. From a regulatory perspective, the main issue at stake is whether loot boxes constitute a form of gambling. If so, they could pose risks to players, and in any case would be subject to relevant local gambling laws. However, few regional regulatory bodies have been willing to state unequivocally that buying loot boxes is tantamount to gambling, and opinions are usually tentative. Nevertheless, calls for policy action are widespread and receive support from consumers and well as in political circles. The question then is whether there is at present a case for public regulation of the video game industry with regard to loot boxes, and if so, what form that regulation should take. This is largely an economic question, yet economic issues have been almost completely overlooked in the discussion so far. This evidence outlines some of the key economic issues at stake in the loot box controversy, and explains their policy implications.

2) A successful case for loot box regulation requires establishing three facts: first, that these revenue models are the cause of serious public harm; second, that self-regulatory efforts by the video game industry to control them have failed, and third, that the benefits of regulatory intervention outweigh its costs and unintended consequences. The first point is straightforward: some type of market failure or other harm must exist, otherwise regulation is unnecessary. In the case of loot boxes, the main harms being discussed are the potentially addictive properties of in-game purchases of randomized rewards. These systems could encourage excessive spending by problem gamblers, children, or other vulnerable parties. If serious harm is demonstrated, the next important question is whether there are any self-regulatory mechanisms in place that could remove or mitigate it. Are individual companies or organizations in the video game industry taking action in response to the public outcry over microtransactions, and if so, are their responses effective? Third, if self-regulation is shown to have failed, what regulatory options are available, what are their costs and benefits, and what unintended consequences are they likely to produce? If a case can be made that benefits outweigh costs and other consequences, then the way is open to actually putting regulation in place. However, as explained briefly below, at the present time, none of the three criteria mentioned above have been satisfied, and the case for public regulation is therefore a work in progress.

3) The majority of the policy discussion over microtransactions and loot boxes concerns the first of the three criteria above: the question of serious public harm. Complaints about loot boxes and

similar mechanics from within the gaming community, however, have focused on a different issue, namely, fairness. Many players feel that it is unfair to allow the purchase of in-game rewards that confer a competitive advantage, a practice referred to as “pay-to-win,” because it removes the element of skill that makes competition enjoyable. Whatever stance we take on this issue, it should be clear that it is not a claim about serious harm to consumers, who are not obliged to play any particular game. This is important, because it indicates that much of the public outcry over loot boxes originates from a fairly straightforward complaint about product quality. For the most part, policy questions about harm—gambling, addiction, excessive spending, etc.—originated in academic and political circles, although they have since been given much attention in the popular and gaming press.

4) The strictly legal question of whether loot boxes constitute gambling in the UK has no universal answer, because loot boxes vary widely in terms of key attributes such as whether they are bought with real currency, whether their rewards constitute things of value, and whether rewards can be redeemed for things of value.¹ The UK Gambling Commission has explained that loot boxes do not for the moment fit its definition of gambling, but nevertheless the Commission advises caution from parents and players. The psychological question of whether loot boxes are a form of gambling is receiving increased attention alongside the legal question, however, and is important in its own right. Part of the interest in this issue is being driven by a series of papers and reports² that each conclude to some degree that loot boxes are psychologically akin to gambling. Crucially, however, these studies provide conceptual models of the similarities between loot boxes and gambling, not empirical studies of player behaviour. Further, one troubling aspect of these reports is that, despite the fact that they contain no empirical evidence, they are usually willing to suggest policy responses to the loot box controversy. Their various proposals do include self-regulatory suggestions, but they do not consider the possible limitations, costs, and unintended consequences of public regulation.

5) To my knowledge, only one peer-reviewed study attempts to examine the empirical record.³ The data it gathers are taken from an online survey that asked gamers about their playing and spending habits in order to see if there was a correlation between loot box spending and problem gambling. The paper does find a positive relationship between the two, though it emphasizes that the causal relationship is unknown. Furthermore, there are several potential problems in the methods used to conduct the survey. Participants self-selected through an open invitation on Reddit, meaning that

¹ S. Schwidessen and P. Karius, “[Watch Your Loot Boxes!—Recent Developments and Legal Assessment in Selected Key Jurisdictions from a Gambling Law Perspective](#),” *Interactive Entertainment Law Review*, 1(1), 17-43 (2018).

² M.D. Griffiths, “[Is the Buying of Loot Boxes in Video Games a Form of Gambling or Gaming?](#)” *Gaming Law Review*, 22/1 (2018), 52-54; A. Drummond, and J.D. Sauer, “[Video Game Loot Boxes Are Psychologically Akin to Gambling](#),” *Nature Human Behaviour*, 2 (2018), 530-532; Netherlands Gaming Authority, “[Study into Loot Boxes: A Treasure or a Burden?](#)” (2018).

³ D. Zendle and P. Cairns, “[Video Game Loot Boxes are Linked to Problem Gambling: Results of a Large-Scale Survey](#),” *PloS one*, 13(11), e0206767.

the survey answers could suffer from a variety of biases. For example, respondents could have been biased against loot boxes and therefore given less accurate answers to the survey questions, a genuine possibility given the hostility to microtransactions and loot boxes in the Reddit community.⁴ A similar issue involves the composition of the sample, which overwhelmingly (89%) consisted of men. One reason the lack of women respondents is significant is that it hints at the underrepresentation in the survey of the mobile gaming market, a part of the industry that relies heavily on microtransactions and loot boxes. Other issues could be raised as well, but the purpose of this evidence is not to criticize this research. Instead, the key point is that the psychological effects of loot boxes are still very much in doubt. Yet as with the other studies mentioned above, the drawbacks and highly tentative nature of the results do not prevent researchers from making policy recommendations.

6) The second criterion mentioned above concerns the ability of the video game industry to self-regulate to limit actual or perceived harm from loot boxes, and to placate customers and potential regulators. There is a growing record of firms and various industry stakeholders taking action to repair consumer confidence.⁵ These actors can be divided into three groups: industry and trade organizations, strategic industry partners, and individual developers and publishers. There is not a dominant opinion about loot boxes among these groups, but the following examples help to show that the controversy is being taken seriously, and that the industry is willing to experiment with different solutions.

7) At the industry level, non-profit self-regulatory bodies like the Entertainment Software Rating Board (ESRB) and Pan-European Game Information (PEGI) system have acted quickly to address parental concerns over loot boxes. They have each, for example, mandated new labeling for games with microtransactions, which must now carry a marking for “in-game purchases.” This signals more clearly to parents and other customers exactly how players can engage with a game. In the case of the ESRB, this change occurred just three months after the initial controversy began. The organization has also launched a new website designed to help educate parents about the games their children play. Strategic industry players like Apple, whose app store provides a major platform for game sales, are also working to make microtransactions more transparent. In late 2017, also at the beginning of the controversy, Apple announced a change to its app store terms and conditions, which now require developers to disclose loot box odds up front, so that players can better understand what they are buying and its likely final cost.

8) Individual developers and publishers are also implementing various reforms to their games. As previously mentioned, EA removed loot boxes from *Star Wars: Battlefront II* before it was released, and developers have also removed them from *Middle Earth: Shadow of War* and *Quake*

⁴ For instance, the most downvoted comment in Reddit history is a reply by EA to a customer complaint about the loot boxes in *Star Wars: Battlefront II* in which the company tried to defend its use of the mechanic.

⁵ The following sections draw on the discussions in M. McCaffrey, “[The Macro Problem of Microtransactions: The Self-Regulatory Challenges of Video Game Loot Boxes](#),” *Business Horizons*, forthcoming.

Champions. Other games are following suit, while also experimenting with alternative systems. Developer Turn 10, for example, removed loot boxes from *Forza Motorsport 7*, and now simply allows players to buy the same content outright. However, it retains an element of risk and surprise by updating the inventory of its online shop every few minutes. Other developers are modifying existing systems to make them more transparent and avoid customer and regulatory complaints. This is happening in a variety of ways, including by using real currency only for cosmetic rewards (*Battlefield V*), removing the ability to pay real currency for in-game currency used to buy loot boxes (*Forza Horizon 4*), and publishing loot boxes odds (*FIFA 19* and *Rocket League*). Although the long-term results of these changes for the industry remain to be seen, it is clear that a number of significant self-regulatory measures are being tried and tested. From a business and entrepreneurship perspective, this is exactly what we should expect, as competitive markets require persistent trial and error in order to satisfy consumers.

9) The third criterion in policymaking involves the costs and consequences of regulatory action. These have been almost completely ignored in the loot box controversy. Further, since few regions are willing to actively regulate loot boxes, there is little data about the effects of proposed restrictions. However, there are several general points to make about the impact that regulating microtransactions will have on the video game business in the UK. These involve costs and unintended consequences.

10) Regulation is likely to have the ironic effect of helping large firms in the industry like EA, while hurting smaller, independent developers. The reason is that the burden of regulation always falls disproportionately, and as a result, even when all developers must pay a cost, some pay more relative to others. Regulatory compliance requires significant legal, financial, and technical (i.e. game development) resources, and it should be fairly clear that small, independent developers are less likely to possess these resources.⁶ They therefore face a choice between accepting the costs, changing their revenue models, and exiting the industry. Each option is costly and uncertain, but there are special challenges involved in abandoning microtransactions and relying on traditional sales revenue.

11) Due to economies of scale and other factors, smaller developers usually face higher production costs compared to their larger rivals, and lack the financial resources to spend years developing high-quality “AAA” games that will eventually sell for full price. For these firms, microtransactions are a useful way to generate steady short-run revenue streams that can be used to finance longer-term projects. They also provide timelier and more concrete feedback than traditional sales because they allow developers to gauge customer satisfaction while still in the development cycle, e.g. through early-access and beta versions of games that include microtransactions. These give

⁶ This point is already being raised by industry insiders. See the remarks by Mark Whipple in: D. Lumb, “[Can Legislation Fix Gaming’s Loot Box Problem?](#)” *Engadget*, Feb 24 (2018).

early indications of the value players find in the game, allowing developers to work almost in real time to improve the experience. This is essentially what happened with *Star Wars: Battlefront II*: the controversy started with the beta version of the game, and the negative reaction from gamers—their refusal to pay—obliged EA to remove loot boxes from the shipped version. Microtransaction revenue thus provides a valuable alternative to traditional market research (which smaller firms may not be able to afford), or to simply ploughing ahead and hoping for windfall profits at release.

12) One implication of all this is that restricting the use or accessibility of microtransactions, including loot boxes, will hurt smaller developers relative to larger companies with established brands, extensive resources, overlapping product development cycles for multiple AAA games, and lower unit production costs. Major developers are also in a better position to navigate the regulatory environment and absorb the costs of compliance, for example, by lobbying for favourable tax treatment. Regulation also privileges firms in other ways. For example, industry giant Nintendo, which maintains a family-friendly brand image, has so far refused to incorporate loot boxes into the games it publishes. It and other firms that take the same stance will benefit from regulation compared to companies more heavily invested in microtransactions, such as EA, just as EA will benefit relative to smaller companies dependent on microtransactions. Ultimately, legal regulation of loot boxes is likely to distort feedback between gamers and producers. At the same time, the “winners” from regulation face their own poor incentive—to rely too much on revenue models like loot boxes that are only cost-effective because barriers to entry prevent innovative young companies from competing.

13) This evidence concludes by suggesting several tactics that industry stakeholders can use to ensure video gaming remains a responsible, independent, and successful business in the UK. Each of these represents a further step toward effective self-regulation.

- Developers should be transparent with consumers about the economic costs, benefits, and necessity of microtransactions, and about how they work in practice (e.g. by explaining clearly the necessity, if any, of new revenue models, and by publishing loot box odds).
- Developers should be aware of the uncertain and changing legal environment—especially with regard to gambling—when designing microtransactions (e.g. only implement systems in which in-game rewards are not “things of value” and cannot be converted into them).
- Developers should be willing to experiment further with existing and planned microtransaction systems in order to meet customer and regulatory requirements (e.g. by removing the element of chance, or the use of real currency, or even loot boxes themselves).