Assessing the landscape of illegal advertising of loot boxes in Belgium

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INTRODUCTION

'Loot boxes' are gambling-like products in video games that players buy with real money to get random rewards. As of November 2024, 70% of top-grossing mobile games on the UK Google Play store include loot boxes (Chapple 2024). Loot boxes are recognised to share psychological and structural similarities with gambling (Drummond and Sauer 2018). Research has consistently found a link between loot box spending and gambling symptomatology (Garea et al. 2021), which has drawn both academic and regulatory attention.

In most countries, loot boxes are not yet formally regulated as gambling. However, Belgium provides a unique case study of a country which has banned loot boxes and social casinos and by extension, advertising of games which contain either. Even so, the effectiveness of the Belgian ban has been called into question. Eighty-two of the 100 highest-grossing games distributed on the Belgian App Store continued to have loot boxes in them (Xiao 2023) and Belgian players continue to circumvent the ban (Denoo et al. 2023). It remains unclear to what extent companies are complying with advertising their games which include gambling-like mechanics: are they continuing to promote them, or just keeping them on the stores for proactive players to find?

To inform effective policymaking, it is important to test the full influence of existing regulation. Specifically, we wanted to assess whether companies actively avoid targeting regions like Belgium, where these mechanics are classified as gambling, and

if prohibited games are still advertised despite legal restrictions. By examining cross-country policies and the effectiveness of existing regulations, the study aims to provide insights that can inform better regulatory frameworks. In turn, more effective regulatory frameworks allow for a more ethical and healthier positioning of games in society: setting precedents with features like loot boxes would create a culture that challenges the role of games and their influence.

In the current study, we investigated the following research question:

RQ1: What percentage of the highest grossing loot box-containing games are advertising in Belgium?

METHOD

A list of games known to contain loot boxes has been generated by reviewing the open data shared by previous research on loot boxes. This generated 390 different game titles. These were entered into the Meta Ad repository (https://www.facebook.com/ads/library) to check if the games have advertised in Belgium and the Netherlands. The Netherlands is culturally and geographically similar to Belgium, while not having made loot boxes illegal: as such, if a games company has advertised in the Netherlands but not Belgium, it provides an indication that they deliberately excluded Belgium for compliance.

For each game, we checked whether it has been advertised in Belgium and the Netherlands. If the game has advertised in Belgium, we also checked, for the most recent 10 adverts, what were the target and actual reach demographics (e.g. if there are differences in the intended gender).

The Meta Ad repository provides a valuable source of data for objectively studying social media advertising. The EU Digital Services Act requires very large online platforms in the EU – including those which are Meta-run – to keep a repository of all advertising that has been shown, and to provide associated data regarding who the intended target audience was (country, age, gender), and the actual reach figures. This means that the Meta Ad repository has a unique and full record of any adverts which were run by games companies, including those which were targeted towards Belgian players.

RESULTS

Of the 390 titles, 372 were unique games. Of those, 176 games (47.3%) advertised in either Belgium or the Netherlands, and 172 games (97.7%) advertised in Belgium. In total, 1,574 ads for games with loot boxes and social casino games were identified. These were viewed a total of at least 4.5 million times. Only four of all 174 games (2.3%) that advertised in the Netherlands were not advertised even once in Belgium.

Concerningly, 1,141 of the 1,574 ads (72.5%) were set to potentially target those under 21. In Belgium, young people under 21 are not allowed to participate even in licensed forms of legal online gambling (except National Lottery products.

CONCLUSIONS

The findings slot into a body of work which suggests that a blanket ban on loot boxes in any culture may not be fully effective without the nuance and infrastructure

required to uphold and monitor it. It provides additional feedback when compared with similar research assessing compliance with loot box disclosure in the UK, where also only 7% of games were complying with these measures (Xiao 2025).

Our work also draws attention to the value of using a third-party, independent data source such as the Meta Ad Library to conduct objective research on advertising, which has implications for both video game research and cross-disciplinary collaboration. We hope our fellow academics and other stakeholders will be interested in using this data source in their own work.

ACKNOWLEDGMENTS

REFERENCES

Chapple, Craig. 2024. 'Are the UK's Top Grossing Mobile Games Really Breaking Loot Box Rules?' 6 December 2024. https://www.pocketgamer.biz/are-the-uks-top-grossing-mobile-games-really-breaking-loot-box-rules/.

Denoo, Maarten, Bruno Dupont, Eva Grosemans, Bieke Zaman, and Rozane De Cock. 2023. 'Counterplay: Circumventing the Belgian Ban on Loot Boxes by Adolescents'. *Proceedings of the ACM on Human-Computer Interaction* 7 (CHI PLAY): 104–30. https://doi.org/10.1145/3611024.

Drummond, Aaron, and James D. Sauer. 2018. 'Video Game Loot Boxes Are Psychologically Akin to Gambling'. *Nature Human Behaviour* 2 (8): 530–32.

Garea, Shaun Stephen, Aaron Drummond, James D. Sauer, Lauren C. Hall, and Matthew Neil Williams. 2021. 'Meta-Analysis of the Relationship between Problem Gambling, Excessive Gaming and Loot Box Spending'. *International Gambling Studies* 21 (3): 460–79. https://doi.org/10.1080/14459795.2021.1914705.

Xiao, Leon Y. 2023. 'Breaking Ban: Belgium's Ineffective Gambling Law Regulation of Video Game Loot Boxes'. *Collabra: Psychology* 9 (1): 57641.

———. 2025. 'Illegal Loot Box Advertising on Social Media? An Empirical Study Using the Meta and TikTok Ad Transparency Repositories'. *Computer Law & Security Review* 56:106069.