

VIDEO GAME CURRENCY: TAMING THE WILD WEST OF VIDEO GAME ECONOMIES

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Do you know the value of digital currency? No, not bitcoin, but rather value generated in online gaming. While on the surface, online video gaming may seem like just another form of entertainment, the value these games are creating is intersecting with the real-world marketplace. The exchange of virtual wealth to real-life wealth is a tumultuous problem that has remained unaddressed by law since the inception of video games. This legal ignorance has left the market for videogame currency in a state reminiscent of the wild west; the wealth is guarded only by those who can protect themselves. Those who cannot protect themselves run the risk of being held up for items worth hundreds of hours of labor. As these markets grow, and assuming we think the online gaming space is worthy of promotion, society must grow with them. When society does decide to move on the issue, it might take a more fluid understanding of John Locke.

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I. Old School Economies, New School Problems

The tragedy of the commons is an ancient concept.¹ Perhaps the most famous explication is given by Professor Garret Hardin. In his brief article, Hardin paints a picture of a pasture open to the common.² He states that a pasture that is open and free to all is bound for ruination.³ For centuries, the culling of herds brought on by wars, famine, and disease protected the farmers from overgrazing.⁴

However, the social stability of modern times has removed herd culling.⁵ Without the natural thinning of herds, the open pasture is open to overgrazing. The farmer faces two realities: (1) they can capture the benefit of overgrazing when they raise, feed, and sell additional cattle, and (2) since the cost of adding cattle is borne on all farmers, all share the effects of overgrazing.⁶ The rational conclusion is to graze until the common is ruined and unsuitable for future herds: “The individual benefits as an individual from his ability to deny the truth even though society as a whole, of which he is a part, suffers.”⁷

The regulation of digital video game currency follows the same thinking. Consider the case of Old School RuneScape (“OSRS”). OSRS is a Massive Multiplayer Online Roleplaying Game (“MMORPG”).⁸ Throughout this paper, “RuneScape” refers to the sibling game to OSRS that exists parallel to OSRS. In OSRS, you play as a human in a magical world of dragons—it uses themes from Dungeons and Dragons.⁹ Most players play on a single account for many years.¹⁰ There is no single goal of OSRS. Players can do many activities: killing monsters, making money, training skills, or even standing around chatting with people in social hubs.¹¹

¹ William Forster Lloyd, *Two Lecture on the checks to Population*, 6 POPULATION & DEV. REV. 473, 473 (1833).

² Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244 (1968).

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

⁸ *Mmorpg*, RUNESCAPE PLAYERS WIKI <https://rsplayers.fandom.com/wiki/Mmorpg> (last visited Sept. 10, 2022).

⁹ RuneScape, *The RuneScape Documentary — 15 Years of Adventure*, YOUTUBE (Apr. 9, 2017), <https://youtu.be/7RNK0YBdwko?t=264>.

¹⁰ See David Jagneaux, *How Jagex Is Keeping MMORPG ‘Runescape’ Alive After 20 Years*, FORBES (Sept. 28, 6:43 PM), <https://www.forbes.com/sites/davidjagneaux/2021/01/04/how-jagex-is-keeping-mmorpg-runescape-alive-after-20-years/?sh=469e212f47bf>.

¹¹ See OSRS WIKI, <https://oldschool.runescape.wiki/> (last modified Mar. 2, 2022).

OSRS lives through good economic policy. When there is not enough money—i.e., Gold Pieces (“GP”)—in the economy, the developer adds a new resource that players can transform into gold through, for example, magical alchemy.¹² When there is too much money, the developer adds activities that cost—i.e., delete or remove—GP to complete; this is how money leaves the economy.¹³ It is the role of the game developer, Jagex, to act as a quasi-regulatory government. By setting proper economic policy, Jagex ensures a healthy virtual society.

It is also worth noting that OSRS uses a one-of-a-kind method for introducing updates.¹⁴ Due to a politically contentious past, players must approve any significant update via in-game poll booths, with a minimum of 75% of the voting players voting yes.¹⁵ Jagex must consider the economic impacts in terms of the game's health and whether it will appeal to its voters. While challenging at times, it ensures that egregious financial incentives do not make their way into the game.¹⁶

¹² Alchemy is the process of turning an item into pure GP using a magical spell. *High Level Alchemy*, OSRS WIKI, https://oldschool.runescape.wiki/w/High_Level_Alchemy (last modified Oct. 17, 2022).

¹³ *Sink (economy)*, OSRS WIKI, [https://oldschool.runescape.wiki/w/Sink_\(economy\)](https://oldschool.runescape.wiki/w/Sink_(economy)) (last modified Jul. 15, 2022).

¹⁴ *Polls*, OSRS WIKI, <https://oldschool.runescape.wiki/w/Polls> (last modified Oct. 18, 2022).

¹⁵ *Id.*; See generally Mote Plox, *RuneScape Historical Timeline 1998 – 2020*, YOUTUBE (March 16, 2021), <https://youtu.be/tZlj694lcxA>.

¹⁶ Loot boxes have garnered the most attention in the news. *Loot Boxes Linked to Problem Gambling in New Research*, BBC (Apr. 2, 2021) <https://www.bbc.com/news/technology-56614281>. Most states define illegal gambling as containing three elements: consideration, chance, and a prize. Hap Burke, et al., *Shield Your Sweepstakes from Gambling Laws*, THOMPSON COBURN LLP (Dec. 21, 2011), <https://www.thompsoncoburn.com/insights/blogs/sweepstakes-law/post/2011-12-21/shield-your-sweepstakes-from-gambling-laws>. A prize is, in part, something of value. *Prize*, BLACK'S LAW DICTIONARY (11th ed. 2019). Courts have defined illegal gambling as when their prizes can be converted back into currency, like players cashing out their chips at a casino. More recently, courts have broadened this definition to include games regardless of the player's ability to cash out. See Mark Eisen, *No Win Situation: The Ninth Circuit Finds Mobile Casino Applications Can Be Gambling Despite No Cash Out Mechanism*, JDSUPRA (Apr. 16, 2018), <https://www.jdsupra.com/legalnews/no-win-situation-the-ninth-circuit-22006/>. In OSRS's sibling game, RuneScape introduced a mechanic known as the Squeal of Fortune to introduce the ability to pay real world money to spin a wheel for potential in-game benefits such as experience, items, or GP. *Squeal of Fortune*, RS WIKI, [https://runescape.wiki/w/Squeal_of_Fortune#:~:text=The%20Squeal%20of%20Fortune%20\(also,with%20the%20Solomon's%20General%20Store](https://runescape.wiki/w/Squeal_of_Fortune#:~:text=The%20Squeal%20of%20Fortune%20(also,with%20the%20Solomon's%20General%20Store) (last modified Oct. 16, 2022). RuneScape experience, items, and GP have real world value. See *infra* note 19. It is common within the general community that in game purchases are unhealthy for the game and the players purchasing them. Once introduced, selling in game benefit for out of game currency became one

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It is common for video games to have unofficial *real* markets for their virtual items.¹⁷ A real market is a market that exists beyond cyberspace.¹⁸ OSRS's real marketplace surrounds its centralized currency, GP. This GP has real-world value and even has a varying exchange rate to USD.¹⁹ At the time of writing this paper, the current ratio is about \$0.52:1M GP or fifty-two cents for every one million OSRS GP, depending on the seller.²⁰ For the average player, like me, this number is practically meaningless. For a healthy minority of the OSRS player base, however, this number reflects real financial gain.²¹ Much like the times of the open pastures of the wild west, there is a new gold rush. Only this gold rush is invisible to the legislative eye.

As the market grows, so too does the purveyor of wealth's hunger. Players who sell gold gather their wealth through one of a few means: gold farming (exclusively partaking in activities that yield high in-game monetary returns for the sole purpose of sale), cheating (having automatic code scripts called "bots" play the game and gather resources to sell), or hacking (getting into other player's accounts and stealing their items to sell).²² Jagex wages a never-ending war to

of the key political talking points over the last several years. Considering the general disdain for the practice, and the potential for legal definitional fit between illegal gambling and loot box mechanics like the Squeal of Fortune, such business practices will likely see more litigation in the future.

¹⁷ See, e.g., *Venezuela's Paper Currency is Worthless, so its People Seek Virtual Gold*, THE ECONOMIST (Nov. 23, 2019), <https://www.economist.com/the-americas/2019/11/21/venezuelas-paper-currency-is-worthless-so-its-people-seek-virtual-gold>; Brad Plumer, *The Economics of Video Games*, THE WASHINGTON POST (Sept. 28, 2012, 8:30 PM), <https://www.washingtonpost.com/news/wonk/wp/2012/09/28/the-economics-of-video-games/>; Alex Hern, *Counter-Strike Trading Found to be 'Nearly All' Money Laundering*, THE GUARDIAN (Oct. 30, 2019, 13:00 EDT), <https://www.theguardian.com/games/2019/oct/30/counter-strike-trading-found-to-be-nearly-all-money-laundering>.

¹⁸ See Thomas Bowen, *10 Video Game Currencies And Their Real World Values*, GAMERANT (Oct. 1, 2022), <https://gamerant.com/video-game-currency-real-world-value/>.

¹⁹ *Gold*, ELDORADO, <https://www.eldorado.gg/osrs-gold/g/10-0-0> (last visited June 26, 2021) (Listing numerous independent GP sellers and their exchange rates); *Buy OSRS Gold*, PROBEMAS, <https://probemas.com/Buy-OSRS-Gold> (last visited June 26, 2021); *Buy OSRS Gold – Old School RuneScape GP for Sale*, PLAYERAUCTIONS, <https://www.playerauctions.com/osrs-gold/> (last visited June 26, 2021).

²⁰ This number is subject to constant change based on current game updates. *Id.*

²¹ William Alexander, *How to Make Thousands of Dollars a Month Player Computer Games*, VICE (Aug. 5, 2013), <https://www.vice.com/sv/article/zn5pda/i-make-thousands-of-dollars-a-month-from-playing-computer-games>.

²² See *Top 10 Infamous Players of RuneScape and How they got Banned*, RUNE LEAK, (Apr., 2021), <https://runeleak.com/rsps-advertisement/top-10-infamous-players-of-runescape-and-how-they-got-banned-19>.

identify and ban these players as it violates their Terms and Conditions to sell GP.²³

Even Jagex employees are not free from financial temptation. In 2018, Jagex fired Moderator Jed (“Mod Jed”) after discovering he had been grossly abusing his moderator privileges.²⁴ Mod Jed stole hundreds of thousands of dollars’ worth of GP from players and even attacked the OSRS servers during a live Jagex tournament with a cash price of \$10,000.²⁵ At the time of this paper, the police investigation into his actions has yet to conclude.²⁶ With his real bank accounts frozen, Mod Jed had gone into hiding, changed his name numerous times, and is still missing.²⁷

Nonetheless, companies have an incentive to allow players property rights in the value they create within the game. When a player creates value on their account—their license—the game companies cannot capture the value. A game company that takes from its players’ accounts to turn a profit is unlikely to survive for long; players are not keen on having their labors taken when they have worked hard to achieve them. The current model allows players to generate any quantity of value on their accounts but does not allow anyone, player or company, access to said value.

Players exchange in-game value for real-world currency when they feel as though the game and its content are popular enough to warrant the deal. If a game company were to allow players property rights to their in-game value, it would encourage more players to play the game. This is because there is a social aspect of playing video games. That is, players may be more likely to play a game if they see others placing more value in its content—a herd mentality of sorts. For the company, more players playing the game means more revenue. Since no one is currently reaping the rewards of player-generated value and it goes against good

²³ *Terms and Conditions*, JAGEX (Oct. 14, 2020), <https://www.jagex.com/en-GB/terms>.

²⁴ Andy Chalk, *Jagex Moderator Fired for Stealing 45 Billion Coins from Old School RuneScape Player (Updated)*, PCGAMER, (Sept. 20, 2018), <https://www.pcgamer.com/jagex-moderator-fired-for-stealing-45-billion-coins-from-old-school-runescape-player/>; *see also* Cammy Harbison, *Was Mod Jed Fired? Old School ‘Runescape’ Team Says a Moderator Has Been Dismissed*, NEWSWEEK (Sept. 20, 2018, 3:09 PM EDT), <https://www.newsweek.com/osrs-mod-jed-fired-after-runescape-twitter-suspended-corruption-exposed-ddos-1131931>.

²⁵ *Id.*

²⁶ *OSRS Mod Jed Scam Story*, PROBEMAS (May 14, 2019), <https://probemas.com/blog/mod-jed-scam-story>.

²⁷ Shauny, *In the Games Industry – An Interview with (Ex-Mod) Mat K!*, YOUTUBE (Jan. 18, 2020), <https://youtu.be/IX7vdMqcqsE?t=8113> (discussing the aftermath of Mod Jed’s abuse and the police with former Product Owner, Mod Mat K).

business practice to take away from a player base value they have generated, it is prudent for companies to allow players to own the value they create through their individual licenses.

II. The Current Shortcoming of Law to Meaningfully Regulate Video Game Economies has left a Regulatory Gap

Regardless of how society views video games, many will pay top dollar²⁸ for the items in these virtual worlds. The goal of this paper is to build a regulatory scheme for legislatures to use in the future. First, I will establish that there is a need for regulating video game economies like OSRS. Second, I will take some time to consider two Lockean views of intellectual property law to find the philosophical starting point. Third, I will push a slightly more nuanced understanding of Locke and use this as my base argument. Fourth, some economic explanation and suggestions on solving the presented issues. Finally, the paper will conclude with an attempt to create a regulatory coda. Future regulators may want to use this as a model with theoretical and practical evidence to support it.

Until now, I have presented several ad hoc examples. However, it is not clear that it is worth the valuable time for our legislatures to examine the issue. As motivation for property rights is not the focus of this paper, I will briefly discuss how legislation may already cover such virtual economies before building a more tailored, yet general approach.

A nonbank financial institution (“NBF”) is an unlicensed financial institution that offers individuals the ability to store money for numerous purposes.²⁹ Currency exchanges are a type of NBF.³⁰ The digital currency of OSRS carries enough value to have a varied exchange rate.³¹ The exchange rate

²⁸ *Buy RuneScape Rares*, RPGSTASH, <https://www.rpgstash.com/runescape/rs3-rares> (last visited Sept. 27, 2022); *Buy Rare Discontinued RuneScape Items - RS3 Rares*, PLAYERAUCTIONS, <https://www.playerauctions.com/runescape-items/> (last visited Sept. 27, 2022); see also Lars Holdgaard, *How Much Does a RuneScape Partyhat Cost – How I Lost 50.000 USD and How This Related to Bitcoin*, LARSHOLDGAARD (Sept. 27, 2022), <https://www.larsholdgaard.com/how-much-does-a-runescape-partyhat-cost-how-i-lost-50-000-usd-and-how-this-related-to-bitcoin/>.

²⁹ *Nonbanking Financial Institution*, THE WORLD BANK, <https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/nonbank-financial-institution> (last visited Sept. 27, 2022).

³⁰ *Id.*

³¹ Gold, *supra* note 19.

on private websites lists where players can pay real currencies in exchange for GP.³² Therefore, I argue that these websites act as currency exchanges.

Title 31 of Section 5330 of the United States Code (“Section 5330”) requires the registration of all money-transmitting businesses.³³ Currency exchanges fall under the code definition of money-transmitting businesses.³⁴ Title 18 of Section 1960 of the United States Code (“Section 1960”) criminalizes unlicensed money transmitting business when the money transmitting affects interstate or foreign commerce in any manner or degree.³⁵ Under the Titles of each Code, websites that engage in the sale of OSRS GP must file their existence with the government; however, none currently do.³⁶

Moreover, suppose we assume that players have property rights (superseding the current license language that forbids property ownership therein³⁷) in their video game wealth that are taxable when sold for profit. Section 61 of the Internal Revenue Code defines gross income: “Gross income means all income from whatever source derived, unless excluded by law. Gross income includes income realized in any form, whether in money, property, or services. Income may be realized, therefore, in the form of services, meals, accommodations, stock, or other property, as well as in cash.”³⁸ Services, property, or cash are considered gross income. When a player sells their GP for USD, they have at least provided a service for money. By providing the buyer with GP, the seller provides the buyer more time to engage in activities in OSRS that would otherwise cost time to generate the required money for said activity.

For example, training the skill “Prayer” involves sacrificing bones to altars that consume the bones for experience.³⁹ Bones cost the player GP.⁴⁰ Therefore, training “Prayer” requires GP. If the buyer pays USD for GP, they are, in effect, paying someone else to spend the many hours to gather the GP needed to purchase bones for Prayer training. This is a service, and therefore the profits are taxable as gross income.

³² *Id.*

³³ 31 U.S.C. § 5330 (2021).

³⁴ *Id.* at § 5330(d)(1)(A).

³⁵ 18 U.S.C. § 1960 (2018).

³⁶ *Eisner v. Macomber*, 252 U.S. 189, 202–203 (1920) (interpreting 26 C.F.R. § 1.61–1(a) to the fullest extent the Constitution allows).

³⁷ JAGEX, *supra* note 23.

³⁸ 26 C.F.R. § 1.61–1(a); *see also* 26 U.S.C. § 61–1(a).

³⁹ *Prayer*, NOCTURNE WIKI, <https://nocturne.fandom.com/wiki/Prayer> (last visited Sept. 12, 2022).

⁴⁰ *Free-to-Play Prayer Training*, OSRS WIKI, https://oldschool.runescape.wiki/w/Free-to-play_Prayer_training (last modified Oct. 23, 2022).

The problem with the law is that it creates a system that encourages adverse interests to proliferate in video game economies. That is, once enough people begin to realize the real economic gain of their virtual worlds, a race to ruination is imminent.⁴¹ As more and more people hear about the ease of access and possibility of wealth, more people have the incentive to make money while it is still worth their time. Once the virtual world is economically mined of its value, those with the misaligned incentives will drain the next game. The question then becomes: How do we vest property rights so that players can capture some of the value in their video games while avoiding misaligning incentives?

III. Locke Based Property Rights Regimes Must be Recalibrated to Better Fit the Online Gaming Space

Due to the nature of this discussion, I will spend a notable amount of space developing a theoretical backdrop. To this end, I would like to begin with a rehabilitation of a commonly cited legal scholar, John Locke.⁴² The current literature applies Locke with an implied use of the common law doctrine of accession.⁴³ The common law doctrine's purpose is important, but it is not the focus of this paper. As such, we must assume we live in a world where we have vested property rights for our virtual in-game labor.

The accession solution is simple: If one party acted in bad faith by intentionally misappropriating another's piece of property, the property right vests with the original owner. The interests are set against each other when appropriating parties act in good faith. The stronger interest maintains a right to the property. If the interest rests with the party who did not initially own the item, they must also pay the original owner for their investment.⁴⁴

⁴¹ Hardin, *supra* note 2.

⁴² *Contra* Leah Shen, Note, *Who Owns the Virtual Items?*, 2010 DUKE L. & TECH. REV. 11 (2010) (discussing the Lockean nature of value creation within video game worlds as leading to individual property rights in said value); F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004) (promoting multiple philosophical frameworks for individual property rights in video game value). *But see*, Steven J. Horowitz, *Competing Lockean Claims to Virtual Property*, 20 Harv. J. LAW & TECH. 443 (2007) (arguing property interests lay within the game developer's overriding labor claim as de facto creators).

⁴³ *Id.*

⁴⁴ The Doctrine of Accession test was further developed by the Supreme Court of Michigan in *Wetherbee v. Green*, 22 Mich. 311 (1871). Concluding for *Wetherbee*, the Court decided that he had a right to show a good faith error stemming from the belief he held a license to appropriate logs from the land owned jointly as a tenant in common of Green; it was the former plus a high amount of newly generated value that would go to waste that brought the Court to its conclusion.

The Lockean framework seems to be a natural outgrowth of the Doctrine of Accession.⁴⁵ The focus on labor as the source of property rights is an enticing view to evaluate. However, such absolutist terms that encapsulate both theories fail to encompass the entirety of practical situations. Specifically, Locke’s labor theory, as applied to Intellectual Property—and subsequently license theory⁴⁶—is overinclusive of the laborer’s property rights when placed in the context of video games.⁴⁷ It creates an unnecessary situation where the law must choose between an all-or-nothing scenario. To further develop this idea, I will turn to a couple of different theories on Locke before branching off into my own space.

a. Understanding Lockean Property Theory as an Off-or-On Switch Ignores the Nuance of Living Economies.

In a famously cited paper, Justin Hughes examined Locke in terms of Intellectual Property.⁴⁸ Locke’s theory increases value for society through labor-based property rights.⁴⁹ Hughes offers perspective on this ideal, “[h]e suggests that granting people property rights in goods procured through their labor ‘increase[s] the common stock of mankind,’ a utilitarian argument grounded in increasing mankind’s collective wealth.”⁵⁰ The Lockean property regimes necessarily fail video game economies. As I will argue in this section, there is too much nuance lost in simple argumentative ends.

Hughes boiled Locke’s theory down to three main propositions: “first, that the production of ideas requires a person’s labor; second, that these ideas are appropriated from a ‘common’ which is not significantly devalued by the idea’s removal; and third, that ideas can be made property without breaching the non-waste condition.”⁵¹ As discussed below, Hughes’ arguments supporting a

Id. at 320 – 321. The same question can be analogized to video games: From within another’s intellectual property, can I generate such immense value such that my property interest supersedes theirs? If so, to what extent? Any references made hereinafter to the Doctrine of Accession will assume this framework.

⁴⁵ Thomas W. Merrill, *Accession and Original Ownership*, 1 J. OF LEGAL ANALYSIS 459, 465 (2009).

⁴⁶ Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L. J. 287, 302 (1988).

⁴⁷ One might find it curious that I do not discuss Hume’s utility-based property theory. DAVID HUME, AN ENQUIRY CONCERNING THE PRINCIPLES OF MORALS, (1777). After this paper is published, I will write on the matter as a separate supplement to this paper as it does merit some discussion.

⁴⁸ Hughes, *supra* note 46, at 297-330.

⁴⁹ JOHN LOCKE, TWO TREATISES OF GOVERNMENT: SECOND TREATISE OF GOVERNMENT (1690).

⁵⁰ Hughes, *supra* note 46, at 299 (citing LOCKE, *supra* note 49, at § 37).

⁵¹ Hughes, *supra* note 46, at 300.

Lockean Intellectual Property law regime are necessarily incompatible with the unique economies of video games.⁵²

Proposition 1: The production of ideas to virtual wealth production in video games. Without delving into the nature of an idea, ideas are intangible things that have value.⁵³ Video game gold is an intangible item that has value. Still, ideas and video game gold exist in a slightly different theoretical space. Pulling an idea from the infinite common does not make it lose any value. Video game gold may also be *pulled* from an infinite common, albeit a temporally tempered one.⁵⁴ However, each *pulling* reduces the value of that which has just been produced by a small amount.

For example, if I were to digitally collect resources in a video game from a rare tree that respawns a few seconds after being cut down ad infinitum, the tree would cease to be rare. Its logs would become worthless as there would be infinite supply. Future examples that discuss video game resources assume that demand is not infinite because, as a practical matter, buyers of these logs only need a finite amount of them. Given enough pulling from the infinite common such that it has lost all value, the items have become worthless. This concept of decreasing value for every pull from the common is missing from ideas.

Nonetheless, the ends of these two concepts meet in a similar place. That is the bank. Just as the gold farmer puts pain-staking hours grinding away at making money in a video game to sell for real-world cash, so too does the inventor slave away at their mental workshop to create an idea from which to profit.

Proposition 2: The “enough and as good” condition is confused under these circumstances. Hughes underlines Locke’s common for the people as something needing to be practically inexhaustible from others’ usage.⁵⁵ The problem with this thinking it does not consider large amounts of inflation from an

⁵² Locke’s treatment of the “non-waste condition” might make some readers curious as to why I included it here. *Id.* at 298. While Locke ran through the idea quickly, seemingly abandoning it within his own theory, the point in and of itself is still worth discussing because of its theoretical implications within the context of video games.

⁵³ Entry in Valuation Dictionary: Value of Idea (Intangible Asset), VALUPAEDIA, <https://www.valupaedia.com/index.php/business-dictionary/510-value-of-idea-intangible-asset> (last visited Sep. 20, 2022).

⁵⁴ The gathering of resources in video games like OSRS are slowed by respawn timers. For example, when you kill a boss, it takes two minutes to respawn. Some items you pick up respawn after a shorter period. These timers slow the influx of resources. *Item Spawn*, OSRS WIKI, https://oldschoolrunescape.fandom.com/wiki/Item_spawn (last visited Sep. 20, 2022).

⁵⁵ Hughes, *supra* note 46, at 315–316.

almost limitless source. Hughes's definition of the common precludes any application to video games—and does so unnecessarily.

Hughes's standard only removes rights when the common is *significantly devalued*.⁵⁶ In the video game world, no single activity is significant enough to devalue the entire common. It would take someone years to have a significant negative impact on the common. Individual player action is too minute for anyone's specific effort to meet this criterion. If applied as Hughes has, the standard would simultaneously force all players to lose property rights while also depriving them of the labor they invested. The standard would thus violate Locke's no harm principle,⁵⁷ which it cannot logically do.

Video game currency exists in an intermediary space between being a scarce commodity and a technically limitless resource. For example, consider the case of farming a boss, Vorkath—colloquially known as “The Money Dragon”—in OSRS.⁵⁸ I am going to treat Vorkath as analogous to Locke's common.⁵⁹ Players can kill this boss many times per hour to generate wealth. Vorkath is a single-player boss that any number of players can fight due to the “instanced” mechanic of the boss fight; instance means we can occupy the same space while participating utterly distinct from each other. The path to unlocking the ability to slay Vorkath is behind months of work for casual players. The time it takes to reach Vorkath is the only limitation on farming it for items sold for in-game gold. There seems to be no problem with the “enough and as good” requirement understood in this sense. Both you and I could kill the boss ad infinitum without harming the other's ability to farm Vorkath.

To see the problem, notice the parallels and differences from maintaining a healthy level of inflation in the real world. In terms of real currencies, when we notice a new commodity, for example, oil, being overproduced to the point of either harming the environment or harming the oil industry, we place production

⁵⁶ *Id.* at 300–01.

⁵⁷ LOCKE, *supra* note 49, § 6; Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 *Yale L.J.* 1533, 1540–78 (1993).

⁵⁸ At the time of writing this note, Vorkath can be killed for a maximum of about 3M GP per hour. At going exchange rates, that is about \$1.50 per hour. Gold, *supra* note 19.

⁵⁹ When a player kills a boss, they are, in effect, pulling a resource from a common. A common is, in part, something from which a laborer injects their efforts to extract some kind of unique value. Mining coal from a mine requires the miner's effort and produce an item with unique value, coal. Since anyone can mine the coal, it comes from the common. In my example, the value is unique because it is only extractable from Vorkath. Vorkath is acting like a common because it accessible by all those who have the skill to kill it and acquire its goods.

limitations.⁶⁰ The goal is to prevent an overproduction that would result in a devaluing the product.⁶¹ Likewise, if everyone farms Vorkath forever, the items—and subsequently the gold it drops—become worthless. The boss is now pointless to kill.

Unfortunately, in the video game world, the parallel of over-production is not offset by an accompanying regulation or increase in gold leaving the digital economy.⁶² Removing GP from sealed-off economies like OSRS requires an

⁶⁰ Jenny Rowland-Shea et al., *5 Reasons Why the United States Can't Drill Its Way to Energy Independence*, AM. PROGRESS (Mar. 10, 2022), <https://www.americanprogress.org/article/5-reasons-why-the-united-states-cant-drill-its-way-to-energy-independence/>.

⁶¹ The oil analogy was a pointed one. In 2015, the world shook as oil prices hit record lows. The Organization of the Petroleum Exporting Countries (“OPEC”) had maintained a level of oil production as an attempt to push out major oil competitors like the United States. Larry Elliott, *Opec bid to kill off US shale sends oil price down to 2009 low*, THE GUARDIAN (Dec. 7, 2015), <https://www.theguardian.com/business/2015/dec/07/opec-plan-kill-us-shale-oil-price-down-seven-year-low>. One of the countries hit the hardest was Venezuela. A former leader in OPEC, Venezuela’s GDP was roughly 30% oil sales with anywhere from 80% to 99% of its exported GDP coming from oil. EUR. COMM’N, E.U., *VENEZUELA COUNTRY STRATEGY PAPER 2007–2013* (2007), https://eeas.europa.eu/archives/docs/venezuela/csp/07_13_en.pdf. Beyond the economic analogy, Venezuelans relate directly to the content of this paper. Venezuelans with an understanding of modern entertainment methods have been farming video game currencies in record numbers since the 2015 oil crisis. Andrew Rosati, *Desperate Venezuelans Turn to Video Games to Survive*, BLOOMBERG (Dec. 6, 2017), <https://www.bloomberg.com/news/articles/2017-12-05/desperate-venezuelans-turn-to-video-games-to-survive>. A direct result of these activities are massive influxes of virtual currency into large online video games like RuneScape and World of Warcraft. Like the ancient Ouroboros symbol of a serpent eating its tail, the rapid inflation caused by these well intentioned—and possibly justified—folk is necessarily destroying that which makes them money. That is, when huge amounts of money are injected into the game, the gold will eventually become worthless. At that point, the serpent will disappear, and the gold farmers will have to turn elsewhere as there is no longer enough value in gold farming said game.

⁶² Robert Nozick’s “Lockean Proviso” discusses the issue of future persons enjoying the same benefit as a right. ROBERT NOZICK, *ANARCHY, STATE, AND UTOPIA* 175–182 (1974). When I play an online game, I expect the content to have the same meaning the game publisher purports it to have—if the economy has hyperinflation, I cannot enjoy content, like Vorkath, in the same way prior players have; there would be no purpose in killing Vorkath if it dropped worthless items. Nozick describes three important points in his proviso. First, appropriate to this situation, the issue is not whether one player was left enough gold to farm, but whether the gold farming of another player left them worse off than before. Nozick uses the language of utility and welfare as measuring sticks, but the idea is the same. For Nozick, the player has recourse only if they have not been duly compensated for this loss in value. *Id.* In the terms described here, compensation could take a number of forms. Based on my overall conclusion, players who lose more value than others may be entitled to extensions of their property limitations. How this is practically calculable is an entirely different matter.

internal fix with some external guidance. The OSRS developer team has tried, with some decent success, to curb the inflation by adding a tax to a popular gambling area within the game known as the Duel Arena—colloquially known as “The Sand Casino” for its desert locale.⁶³ Between 2019 and 2020, the 1% tax on player gambling had removed nearly 17.5 trillion GP.⁶⁴ At the time, the US currency to OSRS GP ratio was about \$0.70:1M GP.⁶⁵ That is approximately \$12.25M removed from a 1% tax on a single section of the player economy for one year from one game. Basic math tells us that \$1.2bn was won over that year by individual players. The previous year saw about a four trillion GP removal, with the year prior being around 1.7 trillion GP.⁶⁶

However, a tax is a band-aid fix to a gaping wound. Hughes’s discussion either leaves the wound with its band-aid or ties a tourniquet around the bicep. His interpretation of Locke would either deny property rights and allow the band-aid fixes to continue or give everyone limitless property rights, in which case everyone can gold farm until nothing is worth doing anymore. By placing his focus on the ends of Locke’s common, he may corner himself into a black and white outcome.

Hughes’ Lockean legal framework leaves this problem unsolved. The discussion runs against two unpleasant outcomes: (1) Granting full property rights not only fails to prevent over-production but also encourages unscrupulous players to prioritize gold farming or botting so long as the gold holds value, a race

Second, unfortunately Nozick did not explain fully why his proviso is satisfied in free market economies. One interpretation asks whether the individual would be better off if all-natural stuff had returned to the common. *Id.* This interpretation is incongruent to my discussion here because it is not clear what process that would entail. Hypothesizing what that looks like is beyond the purpose of this paper.

Third, it is still entirely possible that despite our best efforts, players will still face problems imposed by just acquirers. Nozick argues that even a just gold farmer creates problematic negative externalities. *Id.* The more you gain, the less I have. While Nozick provides his proviso may still survive such violation through due compensation, there are practical applicability concerns to my study here.

⁶³ Josh Khorsandi, Photograph of the OSRS Duel Arena, (July 11, 2021) <https://gyazo.com/9762bbdec265e4e0ff6c24677b3abc01>; Josh Khorsandi, Photograph of the OSRS Duel Arena, (July 11, 2021) <https://gyazo.com/eae8604e3d003998eda30b5a00385dc>; Josh Khorsandi, Photograph of the OSRS Duel Arena, (July 11, 2021) <https://gyazo.com/b6881a9cba23b3cbe1ec8bach2ee18bb>.

⁶⁴ Old School RuneScape, Jagex, *OSRS Data Stream 2020 – Old School RuneScape’s 7th Birthday!*, YOUTUBE (Feb. 26, 2020), <https://www.youtube.com/watch?v=UfB2bBacxJ8> at 8:06.

⁶⁵ *OSRS Price Tracker: Check History Market Prices in USD*, PLAYERAUCTIONS, <https://www.playerauctions.com/osrs-gold/osrs-market-tracker/>.

⁶⁶ Michael RS, *The Duel Arena Tax took 4 Trillion GP out of the Game (OSRS) (New Data)*, YOUTUBE (Feb. 22, 2019), <https://www.youtube.com/watch?v=2KAbOEkkTEs>.

to the bottom of sorts and (2) Granting no property rights creates a vacuum for a dangerous black market driven by greed and overproduction. Thus, the “enough and as good” proposition fails. In the next section, I will attempt to rehabilitate Hughes’s rigid understanding of Locke.

Proposition 3: There will necessarily be a conflict with the “non-waste” proposition. Hughes argues that ideas do not create waste—whether they are shared with society or kept within the creator’s mind.⁶⁷ There is no loss to my ability to generate ideas when you withhold yours—I could just as likely have stumbled upon the same thought myself. In Hughes’s world, this creates a relatively easy on/off switch for the non-waste condition. Thus, ideas have no waste and are appropriate to assign intellectual property rights.

However, consider the inflation problem. Over-producing GP creates inflation. Inflation reduces the value of everyone’s GP. For example, consider a random player, who made ten million GP over ten hours, a 10:10 ratio. If the value of GP is dropping due to the over-production, then some portion of the value of their GP is lost every day. That ten million GP is only worth what ten million GP was worth when this player spent the ten hours earning it. Sometime later, the ratio is now 9:10—same labor, less value.⁶⁸ The over-production led to a waste of player X’s labor.

Lack of regulation allows for a gold-rush mentality among the player base, perpetuating a downward economic spin. As more GP enters the game, the labor the player puts in to earn what GP they currently have is worth less. After all, it would add no value to my wallet if I found an oil deposit in a world in which oil was an easily accessible limitless resource. As with the previous Proposition, the black and white understanding of Locke’s property theory fails to consider the nuance that video game economies require.

In sum, traditional intellectual property law regimes bound by Hughes’s Lockean framework fails to consider player-driven economies’ unique circumstances. The regulatory framework needs to be flexible enough to capture nuances unique to the online gaming community. While Hughes’ discussion of

⁶⁷ Hughes, *supra* note 46, at 328–329.

⁶⁸ I want to briefly discuss the counter argument to this point. As an economic matter, one may retort that there is no value being lost here. When there is more supply, prices fall. This is beneficial to the player as they can now use their current cash to buy cheaper items off the market. As will be developed below, the reason players play OSRS, and games alike, is because their items retain value in the market. It is the exclusivity of owning an expensive item that players enjoy so much. When all items cost nearly zero GP, then the player will find no value in playing the game. The game itself depends on healthy market prices for certain items. Therefore, infinite supply is a bane, not a boon.

Locke does well to account for the nuance in law and ideas, it falls short of a new kind of labor, one with simultaneously more and fewer bounds than ideas.

b. When Interests Conflict, the No Harm Principle Must Protect the Common Through Economic Norms

In contrast to Hughes' more mechanical approach to property law, Wendy Gordon offers a natural-rights approach to Locke.⁶⁹ Gordon's discussion provides for a more fluid, grassroots understanding of intellectual property law such that the door is left open for the cross-application to video games. In her paper, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*,⁷⁰ Gordon revisits the roots of Locke's theory, the Law of Nature.⁷¹ As such, the essential step in my work is to grow and apply Locke's no harm principle and his proviso.

According to Gordon, we must balance two entitlements to assign property rights—the public versus the individual laborers.⁷² Not only should everyone be able to labor, but they should also enjoy said labor.⁷³ To meet the enjoyment standard, the public's relationship to the common must be further defined. The individual must be free from the restraints that the property rights of the public impose to maintain their proper entitlements.⁷⁴ The apple farmer is entitled to enjoy their land without the public sewage treatment municipality dumping its waste into a shared watering source. At the same time, certain pieces of property are occasionally granted to the public when doing so provides a significant benefit.⁷⁵ Suppose the water treatment municipality was the only source of clean water for the town. In that case, the public's right to ruin the source of the apple farmer's water likely supersedes the apple farmer's individual right to benefit from their labor.

What Gordon suggests is a middle ground “between nonownership and tenancy-in-common: freedom to keep one's gains, subject to a duty not to impair others' abilities to draw their own gains from the resource.”⁷⁶ When society begins to think about applying rules and regulations to games like OSRS, it must

⁶⁹ Gordon, *supra* note 57, at 1606.

⁷⁰ *Id.* at 1533.

⁷¹ *Id.* at 1540–78

⁷² *Id.* at 1560–1562.

⁷³ LOCKE, *supra* note 49, § 36.

⁷⁴ *Id.* at § 6.

⁷⁵ Gordon might disagree with this statement in terms of Locke's proviso. She argues that the good enough and as good condition does not depend on efficiency, or the great benefit offered to society. Gordon, *supra* note 57, 1564.

⁷⁶ *Id.* at 1560.

employ this balancing act.⁷⁷ The player who spends their days gold farming is entitled to their newly acquired property and any real money that comes from it. Likewise, non-gold farming players are also entitled to enjoy their items and the methods to make their own, less economically impactful, money. Each party's interests conflict.

To solve this issue, remember Locke's first law of nature—the no harm principle.⁷⁸ Understood by itself, the no harm principle would seemingly be the logical end to either party's property rights. But this produces an untenable problem. If the public takes the product of an overproducing laborer, it also harms the individual laborer because they have lost the fruits of their labor. The next step might be to consider letting the laborer have claim right to everything they mix their labor with to avoid this problem. If that were the case, there would be a claim right for the individual laborer to harm the common from which the public draws value. Harming the public's property rights violates the no harm principle and, therefore, cannot stand.

Hence, Locke's theory forces the individual laborer to give up their rights to the common because doing otherwise grants them a right to harm. This is where Gordon's theory ends, and mine begins.⁷⁹ While Gordon uses the Lockean proviso to provide the nuance necessary to establish intellectual property, she fails to dig deeper. Gordon ends the point by suggesting a theoretical economic approach but does not define what this means.⁸⁰ Defining a potential economic justification for a legal framework surrounding video game currency property rights is the purpose of this paper.

IV. The Enough and as Good Condition Understood as the Measurement of Economic Health in Video Game Economies

Locke's famous proviso is the basis for my theory. First, I need to establish the proviso and then argue for an even more nuanced interpretation of it using an economic theory.⁸¹ Locke's proviso states:

⁷⁷ Hardin argues for a systemic approach to this balancing act. Hardin, *supra* note 2, 1245. "The morality of an act is a function of the state of the system at the time it is performed." *Id.* While only mentioned in passing, one suggestive thought of his is to supplement our statutory framework with special administrative powers. *Id.* His question of watching the watchers may be a valid critique to this thought, but it is of no consequence to my task here. *Id.*

⁷⁸ LOCKE, *supra* note 49, § 6.

⁷⁹ Gordon's theory continues onward to discuss copyright and first amendment issues. I will only touch on her arguments sporadically from now on.

⁸⁰ Gordon, *supra* note 57, at 1562.

⁸¹ LOCKE, *supra* note 49, §§ 27, 33.

It being by him removed from the commonstate nature hath placed it in, it hath by this labour something annexed to it, that excludes the common right of others men: for this labour being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others.⁸²

The no harm principle is absolute. More clearly, it means that when one takes from the common such that there is not enough and as good of it remaining, they have caused harm. This proviso stated above establishes two important rules: (1) the laborer has an unquestionable right to their fruits, and (2) this right is limited by a consideration of the public's interest. Unfortunately, these terms are vague. It is not clear what it means to have "enough" and "as good" left for others. Locke himself did not clearly define the limits. My first step is to apply it in terms of OSRS and then apply an economic theory.

Before defining what will be my socio-economic theory, I must explain the proviso's inherent malleability. What it means for something to be "enough" and "as good" is entirely context dependent. The depletion of a coal mine is measured in different terms than the depletion of an oil field.

By gold farming a boss in OSRS, the gold farmer reduces the value player's actions have when pulling from it. The ratio example I used above will suffice here, though I will add some nuance to it.⁸³ Imagine two casual players are killing Vorkath for the first time and that no one else is killing it. Assume a casual player is someone who plays at most three hours per day. Upon each of the player's first kill, each one gets a (lucky⁸⁴) valuable drop that only Vorkath can drop. Basic economics tells us that the duplication of the Vorkath unique lessens the value of the item: more supply equals less value. This lessening is not too bad, though; there are only two in the game, after all. Each player will still want to return to Vorkath to try to get the drop again—so they can make more money.

Now, consider the impact of a gold farmer in this interaction. The gold farmer spends twelve hours a day, six to seven days a week, doing nothing but killing Vorkath for this item. Over time, the gold farmer is able to acquire the item much more often than the average player. The supply of the item has artificially increased, and the value in killing Vorkath for money has now

⁸² *Id.* at § 27.

⁸³ *See infra*, at p. 18.

⁸⁴ *Vorkath*, OSRS WIKI, <https://oldschool.runescape.wiki/w/Vorkath> (Last Modified Sept. 25, 2022) (Detailing the features of Vorkath, including the 1/5,000 drop rate for his unique drop, the Skeletal Visage).

decreased. What results is a race to deplete the relative commons that exist within OSRS. As the highest-order-common of sorts, OSRS itself would be depleted once enough of the important sub-commons, such as Vorkath, depletes.

The two original players may now find the activity pointless. Instead, they may move onto other money-making methods. Eventually, the gold farmer will follow them and repeat the process. At some point, the average player will have no more money-making activities. There will be nothing to do that generates meaningful money, and everything will be reduced to a price so low, that there will be no need to generate meaningful money. OSRS, as the common, will have lost some of its value. There is no longer “enough” and “as good” for the average player because there are so few enjoyable activities. In theoretical OSRS terms, the “enough” and “as good” condition is measured by the current OSRS economic landscape, which necessarily conflicts with the ideal economic landscape of the gold farmer—whose aim is to make real money selling GP for USD.

V. The Use of Socio-Economic Norms to Guide Regulation

I will argue in this section that rights balancing is best suited to a sliding economic framework rooted in current cultural beliefs of a given space—in this case, the OSRS space.

The first step in developing an appropriate economic theory is to understand the OSRS economy's goal. In his essay, Vilfredo Pareto theorized a perfectly balanced economic state.⁸⁵ Pareto's neoclassical economic view, aptly named “Pareto Optimality”, aims for a state where no additional changes can be made to the economy to make any person better off without making another person worse off.⁸⁶ As pie in the sky as it may seem, Pareto Optimality can serve as a solid line in the sand from which to measure my theoretical progress.

To push this thought through Locke, imagine a set of perfectly balanced property rights: both the individual and public have their interests and rights met without violating Locke's no harm principle. To create a regulatory scheme around this, we need to put it into real economic terms—a market equilibrium of rights of sorts. To return to my apple example, imagine now that the apple farmer and sewage treatment municipality have found their economic Pareto Optimality. In this case, both parties can meet their demand needs and deal with any harm to their supply that might otherwise interrupt their ability to meet demand. Their

⁸⁵ Vilfredo Pareto, *The New Theories of Economics*, 5 J. OF POL. ECON. 485, 494 (1897).

⁸⁶ Iain Fraser & Laurence Smith, *4.6 Pareto Optimality*, UNIVERSITY OF LONDON, https://www.soas.ac.uk/cedep-demos/000_P570_IEEP_K3736-Demo/unit1/page_26.htm (last visited Jan. 1, 2022).

economic and legal interests balance out. If we were to push either side to produce more, they would harm their neighbor's economic and legal interests.

Pareto Optimality is practically not possible to achieve. Instead, we might give a unique, norms-based privilege to those creating the rules of these new online economic worlds. We can then use these norms and point them at the ideal. Let the norms lead you to Pareto Optimality using mutual coercion.⁸⁷

The phrase seems to conflict with itself, but mutual coercion may save the day. Mutual coercion places the burden on the group to decide where to draw the line. For example, OSRS players can vote on an issue presented by the game's developers.⁸⁸ Acting as quasi-agency and administrative authority, the game developers can use data, hold hearings, and develop a plan that the voting population must agree upon.⁸⁹

To be clear, I am not developing a theory in contrast to Adam Smith's *laissez-faire* perspective. My concerns, I argue, marry well with Smith's theory.⁹⁰ GP has value that is perhaps one of the purest manifestations of the free market creating valuable products. For many years, the OSRS economy was left untouched by Jagex.⁹¹ Some players (including larger groups and companies)

⁸⁷ Hardin, *supra* note 2, 1247.

⁸⁸ Polls, *supra* note 14.

⁸⁹ The OSRS development team is incredibly unique. The game was born from a poll back which asked whether old players would be interested in a sister game to RuneScape 3, entitled OSRS. With the support of hundreds of thousands of players, the OSRS version of RuneScape would return. Mark Gerhard, *Old School Runescape: Poll Results In!*, OLD SCHOOL RUNESCAPE WIKI, (Mar. 1, 2013)

https://oldschoolrunescape.fandom.com/wiki/Update:Old_School_RuneScape:_Poll_Results_In! [<https://perma.cc/A4RZ-FSXX>]. This polling system is the most unique characteristic and is what allows for my theory to work. Now, players vote on every major change that happens to the game. If 75% of voting players vote yes, the content is added, and if not, it will not enter the game. The players and developers have an incredibly complex relationship that almost exactly mirrors how our democratic republic operates today. As a matter of fact, the things I have suggested already occur—I am just offering a new way to use the same tools that already exist.

⁹⁰ See ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS (R. H. Campbell et al. eds., Liberty Classics 1981) (1776).

⁹¹ On Dec. 9, 2021, for the first time, Jagex instituted a major shift in economic policy by adding a tax and item sink to the GE. Update: Grand Exchange Tax & Item Sink, OSRSWIKI, https://oldschool.runescape.wiki/w/Update:Grand_Exchange_Tax_%26_Item_Sink#:~:text=We've%20added%20a%201,from%20the%20initial%20sale%20price (last modified Aug. 23, 2022, 5:30 AM) [<https://perma.cc/472K-ZGVG>]. See also, on Aug. 16, 2018, multiple years after the release of OSRS, Jagex implemented a tax on the Duel Arena to help curb inflation and gambling. *Duel Arena*, OSRSWIKI, https://oldschool.runescape.wiki/w/Duel_Arena (last modified Aug. 23, 2022, 5:19 AM) [<https://perma.cc/HM2J-Q7AD>].

built websites to support a new market throughout those years—a market based on the sale of OSRS GP for USD.⁹² Despite the fact that these sales are a violation of the rules and could subject a player to bans,⁹³ the market persisted.

In a never-ending game of cat and mouse, Jagex attempts to catch and ban all Real-World Trading (“RWT”).⁹⁴ However, Jagex’s failure to stop these activities allowed a free market of GP-selling to exist. The Invisible Hand of the market has kept GP valuable in terms of USD.⁹⁵ This is potentially concerning as it may be the discovery of a currency coming into existence underneath the law’s nose.

The core issue is: “[A]ll persons have a duty not to interfere with the resources others have appropriated or produced by laboring on the common.”⁹⁶ An OSRS player plays OSRS because they find value in spending time in the game’s digital world. They find such value because (1) others find it valuable, and (2) the individual player finds it valuable. There is a necessary interdependence between other people enjoying the game and the individual player’s enjoyment of the game.

To the other players, the value of being a part of a community is inherently fluid and exists as a social set of beliefs. These social beliefs depend upon each individual player’s views on what the correct belief are. One of these beliefs is that player actions should carry value beyond the act itself. Due to the interdependent nature of OSRS’s economy, most of this value comes from the idea that the fruits of one’s labor are somewhat unique, and that the OSRS market values this uniqueness by putting a price on a given commodity; the rarer the commodity, the higher the price. The belief holds that my labor is valuable because it can produce rare items that are worth money and desirable for their rarity.⁹⁷

⁹² *Real World Trading*, OSRSWIKI, https://oldschool.runescape.wiki/w/Real_world_trading (last modified May 11, 2022, 10:03 AM), [<https://perma.cc/6KB6-V2WV>].

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ In his theory of moral sentiments, Smith argues that it is the appearance of utility that gives production of art their beauty. See ADAM SMITH, *THE THEORY OF MORAL SENTIMENTS* 259 (London, Henry G. Bohn 1853) (1759). This can be applied to how modern gamers might come to value seemingly pointless objects in a videogame.

⁹⁶ Gordon, *supra* note 57, at 1543.

⁹⁷ Not all activities in OSRS are money based. Though many activities are limited by the amount of wealth you have, there are other ways a player can engage with some of the content. See *Minigames*, OSRSWIKI, <https://oldschool.runescape.wiki/w/Minigames> (last modified Oct. 13, 2022, 12:15 PM) [<https://perma.cc/L646-UW9V>]. However, these are of a strong minority and

When mass producers enter these markets without the same social beliefs as the general playerbase, the mass producers no longer exist within the same culture as the playerbase. The mass producers are a part of the counterculture. Mass producers enter the OSRS world with a single, shared value in mind: real monetary gain. Real monetary gain involves trading in-game items or currencies for real-world cash—usually USD. A logical end to their actions is to pull as much from the digitally infinite common as possible and then sell said common to other players for real cash.⁹⁸ Invariably, the price of whatever they gather falls, as does the price of the item owned by the cultural-values-abiding player. Over time, this incongruity between cultural values destroys any value that either party might glean from the game.⁹⁹

Eventually, no items will be scarce, and nothing will be worth selling for cash. Parasitically, the mass producers will vacate the dead game and search for another value-laden infinite common to begin the process again. The average player is left with meaningless items from which they find no joy. Just as the gold panner leaves once their stake depletes of gold, so too does the player leave OSRS when their items are economically—and by extension, socially—worthless. The player's membership is no longer worth what they paid, as nothing of value remains for them in the world. The player cancels their license membership, and Jagex loses revenue.

a. A Theoretical Economic Justification: a Bottom-Up Approach to Regulation

The problem of unanticipated consequences¹⁰⁰ manifests itself in the background of any new legal framework. In my study here, it is unanticipated economic consequences that matter.¹⁰¹ My suggested economic justification will

are arguably still problematic. The similarities between the money and nonmoney activities are beyond the scope of this paper.

⁹⁸ See *Real World Trading*, *supra* note 92.

⁹⁹ See Hardin, *supra* note 2, at 1246 (discussing the self-eliminating nature of an appeal to an individual's societal conscience as a solution to overproducing and other instances of an individual exploiting a commons).

¹⁰⁰ See Robert K. Merton, *The Unanticipated Consequences of Purposive Social Action*, 1 AM. SOCIO. REV. 894, 894 (1936).

¹⁰¹ See generally FRÉDÉRIC BASTIAT, *SELECTED ESSAYS ON POLITICAL ECONOMY* 1 (George B. de Huszar ed., Seymour Cain trans., Found. for Econ. Educ. 1995) (1848) (“There is only one difference between a bad economist and a good one: the bad economist confines himself to the visible effect; the good economist takes into account both the effect that can be seen and those effects that must be foreseen.”).

follow the same principle as my philosophical justifications—namely, fluidity. First, I need to build the bottom of this bottom-up structure.

The late nineteenth-century Austrian School of Economics wrote ten propositions on the importance of selecting the individual as the basis from which to view valid economic theory.¹⁰² Below, I discuss the ten propositions to support my conclusion that the individual knows best the norms that guide economic policies.

Proposition I states that only the individual makes choices.¹⁰³ The institutions we think of as making choices are really only comprised of groups of individuals that concur about the choice each independently agrees upon. Proposition II states that any study of markets is about “exchange behavior.”¹⁰⁴ Understanding a market is best viewed through the exchange relationships individuals make when bargaining, as well as the institutions where this occurs.¹⁰⁵ Proposition III draws the distinction that the facts of the social sciences are subjective.¹⁰⁶ To the individual, making a choice will depend on a myriad of things that uniquely affect them.¹⁰⁷ The goal is not to predict how to use this legislation, but to interpret people's choices and build a framework that allows for the most flexibility to meet the variation. The first three propositions lay the foundation for justifying looking to the individual as the basis of economic theory.

The next four propositions shift the focus to individual decision-making via microeconomics. Proposition IV states that utility and *costs* are also subjective.¹⁰⁸ The former is a recitation of why people choose the items they do—because it offers them personalized utility. On the other hand, the latter suggests that costs are subjective because we make decisions that are always accompanied by opportunity costs, and that the value of the forgone opportunity is dependent on the individual.¹⁰⁹ Proposition V states that price systems provide signals to

¹⁰² Peter J. Boettke, *Austrian School of Economics*, ECONLIB, <https://www.econlib.org/library/Enc/AustrianSchoolofEconomics.html> (last visited Sept. 10, 2022) [<https://perma.cc/DH8S-BC4V>]; see also CARL MENGER, *PRINCIPLES OF ECONOMICS* (James Dingwall & Bert F. Hoselitz trans., Ludwig von Mises Inst. 2007) (1871).

¹⁰³ Boettke, *supra* note 102.

¹⁰⁴ *Id.*

¹⁰⁵ *See id.*

¹⁰⁶ *Id.*

¹⁰⁷ *See id.*

¹⁰⁸ *Id.*

¹⁰⁹ *See id.*

individuals who then economize their usage of a given item.¹¹⁰ Regardless of access to supply and demand information, when the restaurant owner expects increases in food prices, they economize—or make last longer—what food they have left to buffer against the cost.

Proposition VI—and the two that follow—warrant additional discussion as they form the strongest pillars of the Austrian School as applied to my study. While Proposition VI argues from an antithetical position from Socialism, which is not congruent with my task here, it establishes what has been up until now an assumption. To make a rational economic calculation for the limitations of property rights granted to virtual laborers, they must have private property rights.¹¹¹ When individuals own private property, they create a market for the means of production.¹¹² The output creates money prices which are reflections of the scarcity of said means.¹¹³ Money prices are how planners make policy decisions how, for example, to regulate oil prices.¹¹⁴

Game companies act like quasi-governments who forbid private ownership of their IP through explicit language in their license agreements.¹¹⁵ Failure to communicate the USD money price of GP creates the problems I have discussed at length in this paper.¹¹⁶ Without access to private property, a centralized government holding all property rights makes its policy decisions in myopathy. If online games like OSRS are to be healthy, then we need them to make these decisions with detailed consideration of the player's individual choices. The players, through some external means, perhaps voting, can signal their views to their developers. The developers can then use this to make rational economic calculations and set limitations on the extent of property rights in player-owned GP.

Proposition VII uses the price system and market economy as ways for entrepreneurial discovery.¹¹⁷ Whether game companies like it or not, they create mini economies. Astute players with entrepreneurial spirits capture the value revealed through the discovery of these mini economies. There is no clear way for

¹¹⁰ See *id.*

¹¹¹ See *id.*

¹¹² See *id.*

¹¹³ See *id.*

¹¹⁴ See Elliott *supra* note 61.

¹¹⁵ See *Terms and Conditions*, JAGEX (Sept. 2022), <https://www.jagex.com/en-GB/terms> [<https://perma.cc/YS57-6LBX>].

¹¹⁶ See *infra*, at p. 4.

¹¹⁷ See Boettke, *supra* note 102.

Jagex to reasonably inhibit the exchange of GP to USD. This creates a free competitive market for the players to discover over time.

As a personal estimate, the RuneScape GP to USD market has been around for roughly two decades. In that time, even Jagex itself has made efforts to make use of this value. In 2013, the Well of Goodwill allowed players to donate GP to an in-game well, removing it from the game. For every ten million GP thrown in, Jagex would donate one US dollar to charity; a GP to USD ratio of \$0.10:1M GP compared with current exchange prices of the time likely being closer to a \$1.00:1M GP ratio. Within the single month that it was open, over 544.79bn GP was donated for a total donation of \$54,497.¹¹⁸ The Well of Goodwill would open four more times during its lifespan.¹¹⁹

When the entrepreneurial-minded individual is allowed to have property rights in their GP, they create the most efficient use of their resources. The Well of Goodwill demonstrates that, in competitive markets, even Jagex itself has recognized a more efficient use of its virtual currency, albeit in a more limited respect. If we allow these efficiencies to develop under the guise of the law, economic efficiency develops as well.

The final set of propositions move up to the macroeconomic level. Proposition VIII explains that when governments distort the monetary unit of their economies, they also distort the exchange of said monetary unit.¹²⁰ Whenever a policy distorts the current monetary unit, all exchange is also distorted.¹²¹ Whatever the policy's intention, price adjustments do not occur simultaneously,¹²² and the ripple effect is felt randomly throughout the economy.

The cost of inflation harms the socio-economic landscape. Whenever the government passes inflationary legislative measures, it disturbs people's trust in their government because it effectively removes individual wealth.¹²³ Furthermore, when the effect of new policy changes ripples out in unpredictable ways, the individual cannot make sound financial decisions, as they do not know the actual value of a given item. Thus, money cannot be neutral, and government intervention is prone to problems.

¹¹⁸ See *Well of Goodwill*, RS WIKI, https://runescape.fandom.com/wiki/Well_of_Goodwill#cite_ref-1 (last visited Oct. 20, 2022) [<https://perma.cc/GFM5-DUE2>].

¹¹⁹ See *id.*

¹²⁰ See Boettke, *supra* note 102.

¹²¹ *Id.*

¹²² See *id.*

¹²³ See *id.*

It is important to consider the individual's interest when making new policies because monetary policy impacts them. For example, OSRS players savvy with economic trends make investments into certain items before the release of a significant update to profit. Weeks before Vorkath was released, players began stockpiling food (to heal) and potions (to boost character strength), anticipating an increased demand.¹²⁴ Taken in large sums, wealthy players can capture and profit from a decent chunk of the new demand. If Jagex makes a unilateral decision that creates inflation, players cannot protect their investments by selling their newly acquired food and potions before a price drop occurs.

On the same thought, however, giving all credence to the player's interest is also problematic. If the company does not step in to change areas afflicted by gold farmers, inflation problems continue to occur. The Revenant Caves¹²⁵ are an area located in a Player-versus-Player ("PVP")¹²⁶ enabled space. The Revenant Caves were highly sought after because they boasted one of the highest GP per hour at 4M GP per hour¹²⁷ while also being incredibly easy to farm. It introduced large amounts of inflation; massive quantities of GP were entering the game.

Before the update that occurred on October 21st, 2020, this space was actively controlled by player-run cartels.¹²⁸ The cartels would control the Revenant Caves on multiple game-world servers and have scouts looking for people in worlds not controlled by other cartels. Due to the PVP nature of the Revenant Caves, these cartels could effectively control these areas by amassing and killing anyone not permitted in the caves.¹²⁹ Players would have to pay to get into the caves at a rate of 1M GP per hour; paying players would also receive the protection of said cartels while in the Revenant Caves.¹³⁰

¹²⁴ *See id.*

¹²⁵ *See Halloween 2020*, RUNESCAPE (Oct. 21, 2020), <https://secure.runescape.com/m=news/halloween-2020?oldschool=1> [<https://perma.cc/QG6M-2QEE>].

¹²⁶ *Id.* Most of the OSRS world is considered non-PVP. That is, other players cannot attack you and you cannot attack other players. There are certain designated areas that allow for PVP. This is noteworthy because of how death in PVP zones works. When player X kills player Y, player Y drops everything they have on their person for their killer to loot.

¹²⁷ *See* Mac H, *OSRS Revenants Guide*, YOUTUBE (Feb. 17, 2018), <https://www.youtube.com/watch?v=-xhVCN2nCqI>.

¹²⁸ *See Halloween 2020*, *supra* note 125. *See also Revenant Caves*, RUNESCAPE (Oct. 16, 2020), <https://secure.runescape.com/m=news/revenant-caves-proposal?oldschool=1> [<https://perma.cc/H9WS-JL4D>].

¹²⁹ *See Halloween 2020*, *supra* note 125.

¹³⁰ *See id.*

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Further, these cartels made large sums of passive income, generating large yearly salaries for the more sophisticated individuals.¹³¹ The annual revenue was rumored to be well over \$1,000,000 per year,¹³² but this has not been confirmed beyond player anecdotes due to the nature of the activity. Leaving the world to the players is also not an option because the misaligned incentives problem still exists. A balance between player interest and economic stability could ameliorate the issue. However, per Proposition VIII, the solution would need to come from the perspective of the non-gold farming individual.

Proposition IX states economic resources are lost when price systems are distorted.¹³³ Capital structures are heterogeneous in nature.¹³⁴ The complexity requires a specific alignment of investment and price signals. When poor policies distort these systems, the economic actors will try to adjust to their new reality, losing resources in the process. In OSRS terms, changes to content—like the October 21, 2020 game update described above—can result in real economic loss. When the Revenant Caves updated, the entire mini economy collapsed overnight.¹³⁵ The gold farming transferred to new locations.¹³⁶ While happily removed,¹³⁷ it does prove that significant changes to price systems can have great effects.

Proposition X states that an individual's strife to better their life produces public benefits, not intentional human design.¹³⁸ Every discovery was, at some point, to the direct benefit of the discoverer, not a complex series of human designs aimed at discovery.¹³⁹ The individual scientist wants to find the cure for an illness that will earn them honors or heal their elderly parent. Further, optimal government intervention in such a process is unlikely. The writer ends their discussion of the propositions with a suggestion to adopt the doctors' creed: "First

¹³¹ See Mat Ombler, *How RuneScape is Helping Venezuelans Survive*, POLYGON (May 27, 2020), <https://www.polygon.com/features/2020/5/27/21265613/runescape-is-helping-venezuelans-survive> [<https://perma.cc/PBA4-5QEL>].

¹³² 25 Buttholes, *Venezuelan Cartels are Taking over Runescape*, YOUTUBE (Sep. 8, 2020), <https://www.youtube.com/watch?v=kns-GIJeUkc> [<https://perma.cc/E8FS-4BD6>].

¹³³ Boettke, *supra* note 102.

¹³⁴ *Id.*

¹³⁵ FlippingOldschool, *What Caused the Runescape Markets to Suddenly Crash? November Market Analysis! [OSRS]*, YOUTUBE (Nov. 2, 2020), <https://www.youtube.com/watch?v=ZQhfOCPIiU4> [<https://perma.cc/8Q7P-WXYB>].

¹³⁶ *Id.*

¹³⁷ The Old School Team, *Revenant Caves Proposal*, JAGEX GAMES LTD., (Oct. 16, 2020) <https://secure.runescape.com/m=news/revenant-caves-proposal?oldschool=1> [<https://perma.cc/LR5L-L2LU>].

¹³⁸ Boettke, *supra* note 102.

¹³⁹ *Id.*

do no harm.”¹⁴⁰ Whatever the policy discussion ends up being, the goal of creating appropriate rights must not come at the expense of the in-game economies.

b. A Theoretical Economic Framework to Limit Player Access to Real-World Economic Profit

There is a cost to every activity in an economy. My discussion begins with social and private costs—not uncoincidentally analogizing to Locke’s public and private interests. Preceding is an application of the aforementioned legal and economic theories to the primary economic theory of my paper. This section aims to explain how the previous sections are tied together with Arthur Cecil Pigou’s *The Economics of Welfare*.¹⁴¹ My conclusion for this section suggests that a socio-economic theory should use an industry’s norms. The individuals drive these norms within the community whose interests are tied to a Lockean common. Thus allowing the people—with some minor government intervention—to draw the bounds of normal production.

To understand the bounds of production, I must first define the different kinds of production. Private marginal product (“PMP”) is the direct benefit a private firm receives.¹⁴² The USD captured by a player selling GP is their PMP. Social marginal product (“SMP”) is the direct benefit society receives.¹⁴³ Banning overproducing gold farmers provides OSRS, as a society, the SMP of removing an overproducer. A negative externality occurs when the costs of one person’s actions are felt only by others.¹⁴⁴ Inflation caused by overproducing activities occurs when SMP is less than PMP, thereby externalizing the negative impacts to the general economy. The player who sells billions of GP per year does not feel the pain of seeing the OSRS market lose value. It is the average player who feels the loss in their OSRS bank account.¹⁴⁵

There are three potential solutions to the negative externality problem: taxation, regulation, and property rights. I argue for a Pigovian Tax.¹⁴⁶ When

¹⁴⁰ *Id.*

¹⁴¹ ARTHUR CECIL PIGOU, *THE ECONOMICS OF WELFARE* (1920).

¹⁴² ARTHUR CECIL PIGOU, *THE ECONOMICS OF WELFARE* 108 (4th ed. 1932).

¹⁴³ *Id.*

¹⁴⁴ *Negative Externality*, BRITANNICA, available at <https://www.britannica.com/topic/negative-externality> [<https://perma.cc/2N3E-3PVN>].

¹⁴⁵ FlippingOldSchool, *One of the Biggest Market Crashes Just Hit Oldschool Runescape! [OSRS]*, YOUTUBE, (last visited Jan. 2, 2022) <https://www.youtube.com/watch?v=S1W0XXp8Oii> [<https://perma.cc/DL5W-4GJG>].

¹⁴⁶ PIGOU, *Supra* note 141, § 11 at 168.

firms overproduce, there is a social cost that we pay as a society.¹⁴⁷ Pigou argues that when an industry's SMP is less than its PMP, a state tax on overproduction will increase the national welfare.¹⁴⁸ Placing a tax on production that would impose a social cost on society discourages inflation and the social harm that accompanies it.

c. Dealing with the Criticisms of Taxation as a Solution

Measurement Problem: Pigou was not advocating for intense government intervention.¹⁴⁹ A drug only heals when taken in the proper quantities,¹⁵⁰ so too does a Pigovian tax heal an economy only when applied moderately. Pigou later acknowledged the first criticism of his proposed tax: "It must be confessed, however, that we seldom know enough to decide in what fields and to what extent the State, on account of [the gaps between private and public costs] could usefully interfere with individual choice."¹⁵¹ Measuring what the appropriate tax ought to be is an assumption not accounted for in Pigou's tax. The theory does not account for the individual's economic views.

The Austrian School's philosophy best fills this gap. Critics of Pigou's tax noted the practical difficulty in understanding how to value the loss borne onto players in OSRS. Jagex has a record of pertinent data points. Measuring the rate of inflation is an important task when releasing new content.¹⁵² Presumably, the current rate is too high. Ideally, Jagex would have a preferred number.

Simply put, Jagex could create options and discuss them with the player-base. The players could vote on what they think is the best option, as they currently do with most updates. The practical problems of measurement may

¹⁴⁷ Basic laws forbidding individuals from overproducing lead to a privatization of the common. Hardin, *supra* note 2, 1247. Hardin suggests that instead, a proper solution would be to make it exhaustively expensive for the overproducer to participate in their current ends. *Id.* Notice how implicit fluidity is in his suggestion: using price as the deterrent allows for the rule to change over time as new events occur—what was once a fair price to participate will not always be the same. Any legal remedy must reflect this theoretical reality.

¹⁴⁸ PIGOU, *Supra* note 142, § 11 at 168.

¹⁴⁹ *Id.*

¹⁵⁰ *Taking too Much Vitamin D can Cloud Its Benefits and Create Health Risks*, HARV. HEALTH PUBL'G, (Aug. 7, 2022) <https://www.health.harvard.edu/staying-healthy/taking-too-much-vitamin-d-can-cloud-its-benefits-and-create-health-risks> [<https://perma.cc/RH3D-WGVE>].

¹⁵¹ ARTHUR CECIL PIGOU, *SOME ASPECTS OF THE WELFARE STATE* 6 (1954).

¹⁵² Old School RuneScape, *Old School Economy! Mods Ash, Ayiza & Sarnie – OSRS Q&A November 4th*, YOUTUBE, <https://youtu.be/z-jToQ0er0s?list=PLRs68iqW7gYtgaxXkzBcfCZh9HYREiXMx&t=1711> (Nov. 6th, 2021) [<https://perma.cc/VH53-XEQJ>].

always exist to a certain extent, but perhaps not to a meaningful extent with modern practices.

Reciprocal Cost Problem: Ronald Coase argued against the Pigovian Tax.¹⁵³ The reciprocal costs associated with a Pigovian tax would unfairly burden the overproducer.¹⁵⁴ He argues that all social costs are reciprocal.¹⁵⁵ Consider a factory next door to a neighborhood.¹⁵⁶ The smoke produced from the factory is not entirely the responsibility of the factory.¹⁵⁷ The problem exists because there are people there to suffer.¹⁵⁸ Likewise, the problem exists because there is a factory to cause smokey suffering.¹⁵⁹ A tax placed on the factory might encourage them to produce fewer items—and therefore less smoke—or invest in smoke-reducing technology. However, the more the factory reduces its smoke output, the more people move into the neighborhood. The more people in the neighborhood, the more sensitive to smaller amounts of smoke the people will become, inevitably leading to ever-increasing taxes to maintain a balanced SMP and PMP.

As with the distinction between ideas and video game economies, a categorical difference precludes such criticism. The SMP of living near a steel mill is that the town has access to steel, a valuable material. Likewise, the steel mill gains PMP because there is a demand for building buildings that use steel—the SMP balances with the PMP since both parties benefit.

The SMP of GP sellers is significantly lower. Public opinion of GP selling is notable. Players discuss the USD:GP ratio as an indicator of economic health of the game; players use it as a finger-in-the-wind method to understand how others view the USD value of their OSRS items. Nonetheless, the benefit is always associated with the cost of a downward trend. Players expect the USD value of their GP to decrease as the problem of GP selling continues. The ratio becomes a timer to ruination rather than a method of understanding real economic value. Placing harsher restrictions on the amount of GP a player can sell may push against the downward trend of the exchange ratio. Thus, the reciprocity is not damaging enough for the critique to matter here.

¹⁵³ R. H. Coase, *The Problem of Social Cost*, J. L. AND ECON. 29 (1960)

¹⁵⁴ *Id.* at 35–36

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

d. Using a Concave Utility Curve to Limit Overproduction

In OSRS, the pre-existing polling system is excellent at gathering player feedback.¹⁶⁰ It has a reasonable voting requirement—to prevent people from making new accounts to vote more than once—and is easily accessible.¹⁶¹ Further, the weekly live streams are functional hearings where Jagex staff answer player-submitted questions.¹⁶² This time also allows the more senior staff to speak directly to the player base on important issues.¹⁶³ Beginning with the individual is possible because there is a clear line of communication between the legislators and the public.

Fair regulation requires clear communication between the legislative branch—game developers—and the public as an initial requirement. While Pareto Optimality is the end, the means must account for aggregated social norms. Back and forth communication eventually develops a social intuition about healthy inflation levels.

Once decided, a Pigovian tax on overproducers could curb overproduction. The goal is to balance the public and the individual laborer's interest in the common. We still want to avoid any claim rights to harm the public's interest. Still, we also want to ensure that well-intended laborers can capture a reasonable amount of value based on established social norms. We must bite the harm to overproducing laborers to avoid the claim right issue. Limiting production through tax reduces the value in producing excessive amounts of GP.

Jagex could find the difference between the current inflation rate and the ideal as the numerical starting point using their on-staff economist.¹⁶⁴ Based on Jagex's current estimates on how much GP enters the game due to GP sellers, Jagex could take that estimate, divide it amongst the known¹⁶⁵ GP selling services, and then do some internal investigation to decide what proportion of GP

¹⁶⁰ OSRS WIKI, *supra* note 11.

¹⁶¹ Fresh accounts may only vote once they have reached a total skill level of 300. This can take a wide range of time depending on how the player chooses to train their skills to reach a sum of 300 levels between their various trainable skills. Nonetheless, this might take a player over ~50 hours to achieve. Here, the barrier to entry is time. *Id.*

¹⁶² Old School RuneScape *supra* note 152.

¹⁶³ *Id.*

¹⁶⁴ *Id.* at 14:10.

¹⁶⁵ The word known here carries a lot of weight. Later on, I discuss the legal identification tools that would have to be used for this theory to work. While all of the sources would be practically unknowable, it would become prudent for GP sellers to notify Jagex of their existence. Getting caught operating without proper registration would carry heavier legal ramifications that would automatically begin; the player has now knowingly defrauded the U.S. government.

sold a GP seller should retain. Jagex could then present its recommendation to the community to spur a legislative discussion.

I suggest that companies like Jagex use a concave utility curve. Using tiers, Jagex could create several options for players to think about and discuss. Consider a logical proof with a mathematical visualization:

1. The ideal inflation rate is 2%.
2. The current inflation rate is 6%.
3. The difference is 4%.
4. Assume 1,000bn GP entered the OSRS this past year.
5. Therefore, the economy inflated by 40bn GP.
6. Assume that it was GP sellers who brought in the additional 40bn GP to the OSRS economy this past year.
7. Assume there were ten players selling GP in equal amounts.
8. Therefore, on average, each GP selling player brought an additional 4bn GP to the OSRS economy.
9. The current assumed exchange rate is \$0.52:1M GP.¹⁶⁶
10. Therefore, the average GP seller made \$1,560.00 USD from selling GP this year.

This proof explains how a person captures 100% of the value from selling GP. Rather than allowing the current state of affairs to continue, the following could represent the maximum profit a single GP seller could make each year.¹⁶⁷

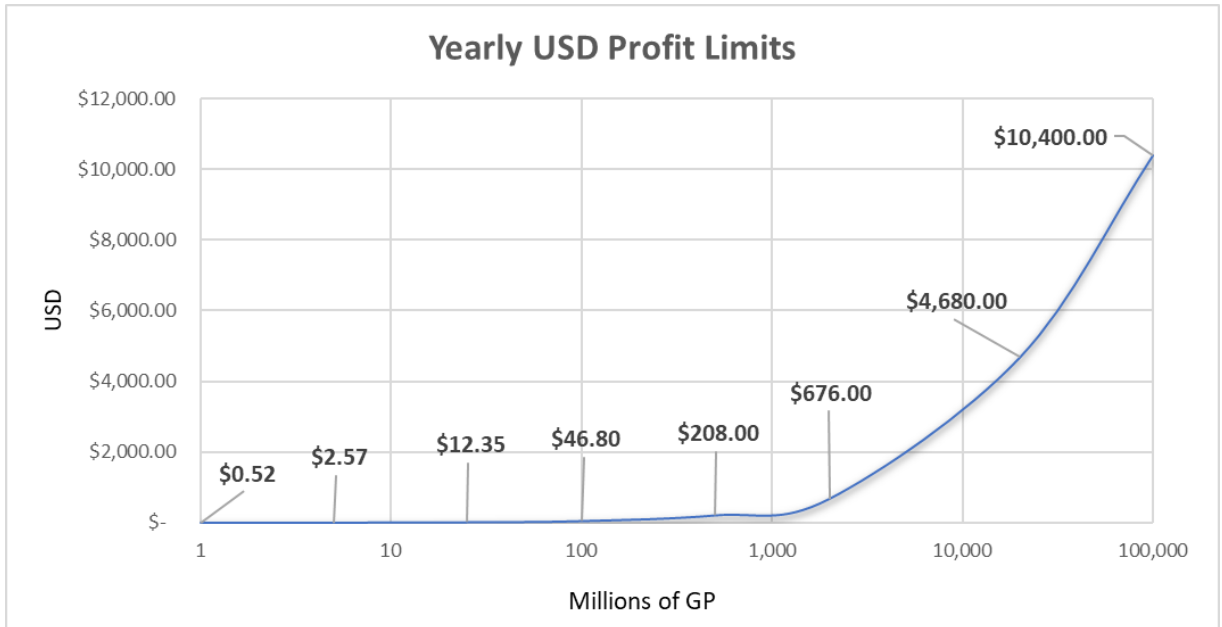
GP Exchanged for USD (in Millions)	Maximum USD Profit Per Annum	Non-Limited USD Profits
1	\$ 0.52	\$ 0.52
5	\$ 2.57	\$ 2.60
25	\$ 12.35	\$ 13.00
100	\$ 46.80	\$ 52.00
500	\$ 208.00	\$ 260.00
2,000	\$ 676.00	\$ 1,040.00
20,000	\$ 4,680.00	\$ 10,400.00
100,000	\$ 10,400.00	\$ 52,000.00

¹⁶⁶ See *infra*, pp. 4–5.

¹⁶⁷ These numbers are based on my own intuition from playing the game and researching GP selling websites. Some websites will post how much GP they have in stock. Gold, *supra* note 14. From my research, I think that it would be exceptional for a website to have over 100bn GP in stock. That is the limit as it encompasses the few players that overproduce.

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GP exchanged for USD (in millions)	Legal Utility Limitation	GP kept for sale (in millions)
1	0%	1
5	1%	5
25	5%	24
100	10%	90
500	20%	400
2,000	35%	1,300
20,000	55%	9,000
100,000	80%	20,000



While the numbers may change, in principle, the above example should apply to any game that shares similar features. Importantly, the game must have an item worth real-world currency, that can be produced infinitely, and is transferrable to other players in-game. When present, the preceding may act as a model for developers to limit the inflation that enters their game.

e. Using Socio-Economic Theory to Develop a Regulatory Schema for the Regulation of Video Game Currencies

Building a regulatory schema/coda is the final step for this paper. As was discussed in § II, current laws may already include the activities of GP sellers.¹⁶⁸

¹⁶⁸ See *infra*, § II.

On the other hand, analogous laws also fail to account for the differences between video games and real-world economies.¹⁶⁹ In this final section, I suggest a new rule to append to laws that fall short imbued with the spirit of analogous laws.

Section 5330 and Section 1960 define money transmitting business, require the disclosure of such business, and criminalize unlicensed operation.¹⁷⁰ GP sellers would likely fall into this category. The issue I discussed in Section II considered the possibility of over incentivizing gold farming. Assuming players have vested property rights in their GP, recognizing and legitimizing GP selling would open the door to limitless production. People would have a streamlined set of guidelines to sell as much GP as they possibly could. The game would suffer as more people came to cash in on the easy money, driving inflation even further than when the market was unofficial. The new rule needs to include a mechanism to prevent this. Without it, the games companies and non-GP selling players lose.

- a. This rule should be considered a coda to 31 U.S.C § 5330 and 18 U.S.C § 1960.
- b. Game developers shall work with qualified non-employee players to regulate the rate of inflation to a reasonable extent.
- c. Within 180 days of the date of the first sale, any person engaged in selling valuable items for real-world currencies shall register with the Secretary of the Treasury according to 31 U.S.C § 5330 and shall notify the developer of the video game.
- d. Within 15 days of creating a currency exchange, players must provide the Game developer a reasonable amount of information to identify the player to any state or federal judicial agent upon request.
- e. Game developers may create a currency exchange to allow others to buy and sell items in their video game for any country-backed currency.

¹⁶⁹ The background logic I apply here is found in several areas of regulatory law. The Clean Water Act (“CWA”) focuses on “recapturing and preserving [the] biological integrity of [the] nation’s water by creating web of complex interrelated regulatory programs.” U.S. v. Holland, 373 F. Supp. 665, 668; *accord* St. Andrews Park, Inc. v. U.S. Dep’t of the Army Corps of Eng’rs, 314 F. Supp. 2d 1238, 1242 (discussing cease and desist orders under CWA with analogy to the Clean Air Act); *API v. Johnson*, 541 F. Supp. 2d 165, 171 (“The purpose of the Clean Water Act is to ‘restore and maintain the physical, biological and chemical integrity of the Nation’s Waters.’”); 33 U.S.C § 1251; *see also* 42 U.S.C § 7401. Legislative focus on the wellbeing of the environment through regulatory limitation is the same kind of reasoning I employ here. Through their insistent gold farming, players who affix their actions to antithetical cultural norms should have their actions regulated. The goal, similar to *Holland*, is to preserve the integrity of the—economic—environment.

¹⁷⁰ 31 U.S.C. § 5330; 18 U.S.C. § 1960.

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- f. A Game developer that does not choose to establish a currency exchange shall not hold any liability for the actions of players who run currency exchanges within the developer's video game.
- g. According to subsection (a) of this rule, game developers who do not create a currency exchange shall require players who wish to sell valuable items to create and register individual currency exchanges according to subsection (a) of this rule.
- h. In addition to the definitions referenced in subsection (a) of this rule, the following definitions apply:
 - 1. A Game developer is an entity that sells video games.
 - 2. A player is a person who interacts with a Game developer's video game.
 - 3. The definition section of 31 U.S.C § 5330(d) shall be interpreted to include the sale of valuable items in video games in exchange for any country-backed currency, cryptocurrency, or any other crypto commodity [116 H.R. 6154(1), (2)].¹⁷¹
 - 4. A valuable item is a digital item that exists in a video game developed by a Game developer that can be sold for any country-backed currency, cryptocurrency, or any other crypto commodity [116 H.R. 6154(1), (2)].¹⁷²

There is more detail to be discussed in my proffered coda. My goal was to simply provide a starting point to help guide the conversation in a ground up approach. Further additions may be warranted should the subject find its way into the public's eye.

VI. Conclusion

More and more people are spending significant time and effort gathering resources in video games.¹⁷³ Some make their livelihoods off the sale of these digital assets.¹⁷⁴ GP and USD share enough qualities that they have become practically indistinguishable from each other. OSRS is no outlier in this regard. Games like World of Warcraft, Counter Strike: Global Offensive, and Fortnite all

¹⁷¹ H.R. 6154, 116th Cong. § 2 (2020).

¹⁷² *Id.*

¹⁷³ Nicholas Deleon, *Let's quit our jobs and become World of Warcraft gold farmers*, TECHCRUNCH (Mar. 6, 2009), <https://techcrunch.com/2009/03/06/lets-quit-our-jobs-and-become-world-of-warcraft-gold-farmers/>.

¹⁷⁴ *Id.*

have mini economies that have developed naturally.¹⁷⁵ Like a piece of art, the value is in the eye of the beholder. And like art, that value can lead people to engage in harmful activities.

In this paper, I have assumed that players have vested property rights. I have put myself on the edge of new legal theory. My aim for this paper is to show that old ways of thinking can apply to new problems and likely will for years to come. But fair questions still remain. Some may argue that the game developer has categorical claim rights to all the labor produced. As has been the case for many new industries, the law will follow as cases crop up. In the end, the ideas laid out here will hopefully help guide those who come across these problems in the future to understand the issues.

Perhaps this is the just result as well. The law must reflect the increasing complexity of our world. Rules that create black and white outcomes do not cut it anymore. The world is driven more and more toward a state of fluidity. The fluidity of thought, and by consequence law, frees rational thought from the past, present, and future. I believe that there is much to be gained from reimagining the law through the lens of fluidity. The starting point rests within our intuition.

¹⁷⁵ WIKIPEDIA, *Category: Virtual Economies*, https://en.wikipedia.org/wiki/Category:Virtual_economies (last modified Jan 4, 2018).