Taxing the Metaverse

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The buzz surrounding the Metaverse has been growing steadily for the past couple of years, but the tax implications of this novel ecosystem remain fuzzy to most tax scholars. Such uncertainty is concerning, given the potential and momentum of this emerging technology. Although the Metaverse evolved from online video games focused only on user consumption, it now allows users to produce income and accumulate wealth entirely within the Metaverse. Current law seems to defer taxation of such until a realization or cash-out event. This Article challenges this approach and offers novel arguments justifying Metaverse taxation.

Because economic activity within the Metaverse satisfies the Haig–Simons and Glenshaw Glass *definitions of income, its exclusion will create a tax haven. Tax policy can also play an essential role in regulating the virtual economy. Furthermore, this emerging technology allows policymakers to modernize the tax system. The Metaverse's ability to record all digital activity and track individual wealth can offer governments a unique opportunity to tax income immediately upon receipt and thus overcome the traditional realization requirement and its incentive for tax deferral. Immediate taxation, such as a mark-to-market system, would be a more efficient and fairer approach so long as it could overcome intrinsic valuation and liquidity problems.*

Therefore, this Article proposes that income and wealth within the Metaverse should be subject to immediate taxation. As support, it considers the tax implications of self-created virtual assets (like non-fungible tokens (NFTs)), loot drops, intra-metaverse exchanges, inter-metaverse exchanges, and cash-for-virtual-goods exchanges. It also endorses the proposal for Unliquidated Tax Reserve Accounts (ULTRAs) as a way to implement mark-to-market taxation that resolves the valuation and liquidity issues of immediate taxation. Finally, it demonstrates that governments can use the Metaverse as a laboratory for experimenting with

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cutting-edge policy, which may benefit broader audiences beyond tax policymakers interested in the Metaverse's future.

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INTRODUCTION

On October 28, 2021, Facebook rebranded to Meta and declared that its long-term goal was to "bring the [M]etaverse to life and help people connect, find communities and grow businesses."[1] This bold announcement brought the term "Metaverse" into the collective public consciousness.[2] Although academics struggle to provide a standard definition,[3] the Metaverse is commonly understood as "an expansive network of digital spaces, including immersive 3D experiences in augmented, virtual, and mixed reality, that are interconnected and interoperable so you can easily move between them, and in which you can create and explore with other people who aren't in the same physical space as you."[4] Any

1. *Introducing Meta: A Social Technology Company*, META (Oct. 28, 2021), https://about.fb.com/news/2021/10/facebook-company-is-now-meta/ [https://perma.cc/9LJD-QEXV].

2. The term "Metaverse" is not in fact new or created by Meta but originated in the science fiction novel *Snow Crash*. *See, e.g.*, Charles R. Macedo, Douglas A. Miro & Thomas Hart, *The Metaverse: From Science Fiction to Commercial Reality—Protecting Intellectual Property in the Virtual Landscape*, NYSBA BRIGHT IDEAS, Spring–Summer 2022, at 13, 13 ("The term 'Metaverse' itself comes from author Neal Stephenson's 1992 novel *Snow Crash*, which describes it as an immersive world."); Google Search Requests for Keyword "Metaverse" from January 1, 2004 to February 8, 2023, GOOGLE TRENDS, https://trends.google.com/trends/explore?date=2004-01-01%202023-02-08&geo=US&q=metaverse [https://perma.cc/4ADM-K4CB] (last visited Mar. 11, 2024) (suggesting interest in the term "Metaverse" spiked on the date Facebook rebranded to Meta).

3. *See* Josef Erl & Matthias Bastian, *Here Are 10 Metaverse Definitions, Take Your Pick*, MIXED (Sept. 3, 2022), https://mixed-news.com/en/here-are-10-metaverse-definitions-take-your-pick/ [https://perma.cc/RY3J-RCRG].

4. LAU CHRISTENSEN & ALEX ROBINSON, THE POTENTIAL GLOBAL ECONOMIC IMPACT OF THE METAVERSE 5 (2022), https://www.analysisgroup.com/globalassets/insights/publishing/2022-the-potential-global-economic-impact-of-the-metaverse.pdf [https://perma.cc/C27H-GSZ5].

metaverse[5] will likely rely heavily on blockchain assets such as cryptocurrency and non-fungible tokens (NFTs).[6]

A recent poll suggests experts are split on the future value and development of the Metaverse and its related technologies.[7] Many believe "the [M]etaverse has the potential to have substantial, beneficial economic impacts in multiple dimensions—including contributing to GDP growth, creating jobs, increasing productivity, and improving consumer welfare through other dimensions in both developed and developing countries."[8] Even a big law firm, ArentFox, has purchased digital property in the Metaverse to prepare offering services there.[9] However, others are not convinced.[10] Since announcing its goal to "bring the [M]etaverse to life," Facebook/Meta has seen a steady decrease in market value.[11] Indeed, the lackluster participation in existing online virtual worlds such as Second Life,[12]

5. The author has chosen to capitalize "Metaverse" when referring to the entire Metaverse. However, when referring to distinct metaverses within the Metaverse, the author has chosen to leave the term in its lower-case form. Throughout this Article, it is self-understood that the "Metaverse" refers to all potential virtual worlds, whereas "metaverse(s)" refers to individual metaverses. Also, the term Metaverse does not refer to Meta's metaverse.

6. *See, e.g.*, Ava Jones, *The Connection Between the Metaverse, Cryptocurrencies, and NFTs*, LINKEDIN (Dec. 20, 2021), https://www.linkedin.com/pulse/connection-between-metaverse-cryptocurrencies-nfts-ava-jones/ [https://perma.cc/KGB7-PKUP].

7. *See* JANNA ANDERSON & LEE RAINIE, PEW RSCH. CTR., THE METAVERSE IN 2040, at 5–6 (2022), https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2022/06/PI_2022.06.30_Metaverse-Predictions_FINAL.pdf [https://perma.cc/C3KN-JM8U].

8. CHRISTENSEN & ROBINSON, *supra* note 4, at 44; *see, e.g.*, *id.* ("[I]f the metaverse were to be adopted and grow in a similar way as mobile technology, then we would expect it to be associated with a 2.8% contribution to global GDP after 10 years."); ANDERSON & RAINIE, *supra* note 7, at 57 ("Innovative developers are likely to [be] drawn to the wide range of economic and manipulative opportunities in the metaverse . . . ."); *id.* at 66 ("[I]ndividual economically-driven enterprises offering competing capabilities, experiences and visions of the future will continue to be the structure of the [M]etaverse in 2040. . . . [The Metaverse] should have real economic and societal benefits.").

9. *See* Bruce Love, *Arent Fox Buys Property in the Metaverse, Becoming First Big Law Firm with Serious Presence in the Virtual World*, AM. LAW. (Feb. 15, 2022, 5:00 AM), https://www.law.com/americanlawyer/2022/02/15/arent-fox-buys-property-in-the-metaverse-becoming-first-big-law-firm-with-serious-presence-in-the-virtual-world/?slreturn=20230015031106.

10. *See* ANDERSON & RAINIE, *supra* note 7, at 146 (statement of Michael H. Goldhaber) ("[Virtual reality] will be simply too much added trouble for too little gain."); *see also id.* at 123 (statement of Steve Wilson) ("The metaverse is mostly hype."); *id.* at 125 ("The metaverse is just a marketing term being applied to things we already have . . . .").

11. *See* META, *supra* note 1; Aimee Picchi, *Meta's Value Has Plunged by $700 Billion. Wall Street Calls It a "Train Wreck.,"* CBS NEWS (Oct. 28, 2022, 10:11 AM), https://www.cbsnews.com/news/meta-stock-down-earnings-700-billion-in-lost-value/ [https://perma.cc/9H63-AEVF]; Ian Luke, *Why Facebook (Nasdaq: META) Stock Is Down So Much in 2022*, LINKEDIN (Nov. 27, 2022), https://www.linkedin.com/pulse/why-facebook-nasdaq-meta-stock-down-so-much-2022-ian-luke/ [https://perma.cc/V38G-YYN3]; Mike Isaac, *6 Reasons Meta Is in Trouble*, N.Y. TIMES (Feb. 3, 2022), https://www.nytimes.com/2022/02/03/technology/facebook-meta-challenges.html; James Clayton, *Facebook Owner Meta Sees Biggest Ever Stock Market Loss*, BBC (Feb. 4, 2022), https://www.bbc.com/news/business-60255088 [https://perma.cc/KZE3-KW64].

12. *See* Dan Heath & Chip Heath, *Why Second Life Failed*, SLATE (Nov. 8, 2011, 10:05 AM), https://slate.com/business/2011/11/why-second-life-failed-how-the-milkshake-test-helps-predict-which-ultrahyped-technology-will-succeed-and-which-wont.html [https://perma.cc/9JLF-MDJN]; Gene Yoon, *Why Second Life Failed*, MEDIUM (Nov. 12, 2011), https://medium.com/ginsudo/why-second-life-

Decentraland,[13] and The Sandbox,[14] combined with a struggling NFT and cryptocurrency market recently culminating in the collapse of FTX,[15] calls into question the future viability of the Metaverse.

The future of the Metaverse is uncertain. Nevertheless, the lack of existing regulations governing both current and potential economic activity in the Metaverse[16] and the resulting social chaos—as demonstrated by the dramatic failure of FTX—justify the present discussion on Metaverse taxation.

A productive discussion of Metaverse taxation first requires establishing a more concrete definition of the Metaverse. And such a definition should align with income taxation, which is the primary form of taxation in the United States. Public finance and tax scholars generally accept that, in theory, the time-tested Haig–Simons definition of income, which includes "gains or increases in wealth over a particular period regardless of whether spent on consumption or saved,"[17] is the best way to conceptualize income.[18] When applying this definition to the virtual economy, many digital worlds and online video games, which may be considered a prelude to the Metaverse, exist for the users' *consumption* and thus only partially satisfy the Haig–Simons definition of income. For example, using real currency, Fortnite allows players to purchase various skins, weapon wraps,

failed-699ea0073bb7 [https://perma.cc/2JH9-HSHT]; ANDERSON & RAINIE, *supra* note 7, at 125 ("[The Metaverse is] mostly going to be like Second Life, which became populated by a lot of crazy people, sexists, racists, bigots and furries. Wired magazine was full of breathless articles every time some giant company decide[d] to open a store in Second Life, but almost no one covered it when all of those companies quietly quit the platform since it was really quite problematic.").

13. *See* Cam Thompson, *It's Lonely in the Metaverse: DappRadar Data Suggests Decentraland Has 38 'Daily Active' Users in $1.3B Ecosystem*, COINDESK (Oct. 13, 2022, 5:52 PM), https://www.coindesk.com/web3/2022/10/07/its-lonely-in-the-metaverse-decentralands-38-daily-acti ve-users-in-a-13b-ecosystem/ [https://perma.cc/UH63-2HYB].

14. *See id.*

15. *See* Kalley Huang, *Why Did FTX Collapse? Here's What to Know.*, N.Y. TIMES (Nov. 18, 2022), https://www.nytimes.com/2022/11/10/technology/ftx-binance-crypto-explained.html; Ari Levy & MacKenzie Sigalos, *Crypto Peaked a Year Ago — Investors Have Lost More than $2 Trillion Since*, CNBC (Nov. 14, 2022, 3:07 AM), https://www.cnbc.com/2022/11/11/crypto-peaked-in-nov-2021-investors-lost-more-than-2-trillion-since.html [https://perma.cc/Y3SE-76QS]; Sidhartha Shukla, *NFT Trading Volumes Collapse 97% from January Peak*, BLOOMBERG (Sept. 28, 2022, 4:49 AM), https://www.bloomberg.com/news/articles/2022-09-28/nft-volumes-tumble-97-from-2022-highs-as-frenzy-fades-chart.

16. *See* Harrison Hayne, *Regulation of the Metaverse*, B.U. SCH. L. REV. BANKING & FIN. L. (May 17, 2023), https://www.bu.edu/rbfl/2023/05/17/regulation-of-the-metaverse/ [https://perma.cc/FZ3T-33F6]; Jana Arbanas, Marlo Karp, Jennifer McMillan, Chris Arkenberg, Michael Steinhart & Ankit Dhameja, *Considerations for Regulating the Metaverse: New Models for Content, Commerce, and Data*, DELOITTE INSIGHTS, https://www2.deloitte.com/us/en/insights/industry/technology/emerging-regulations-in-the-metaverse.html [https://perma.cc/LWL5-FEEE] (last visited Mar. 11, 2024).

17. JOHN A. MILLER & JEFFREY A. MAINE, THE FUNDAMENTALS OF FEDERAL TAXATION: PROBLEMS AND MATERIALS 20 (5th ed. 2018). In other words, the Haig–Simons formula for income can be simplified to consumption plus savings.

18. *See, e.g.*, STAFF OF JOINT COMM. ON TAX'N, JCX-15-12, OVERVIEW OF THE DEFINITION OF INCOME USED BY THE STAFF OF THE JOINT COMMITTEE ON TAXATION IN DISTRIBUTIONAL ANALYSES 3 (2012), https://www.jct.gov/CMSPages/GetFile.aspx?guid=14f16e42-e014-4b51-8f6b-5ad3cd2f2cba [https://perma.cc/9HJF-ULFR].

and in-game currency.[19] This is consumption of the players' after-tax income. On the other hand, the Metaverse allows users to *produce real income and accumulate wealth* in addition to spending on consumption, satisfying all components of the Haig–Simons definition of income and inviting the normative discussion on whether such income and wealth should be subject to taxation and how.

Thus, for this Article, the term Metaverse is used to describe any network of virtual worlds wherein participants engage in economic activity, including the ability to consume, create, trade, and accumulate digital items with real economic value. An item has real economic value if it can be converted to, or at least valued in, a taxable currency such as cryptocurrencies or the U.S. dollar.[20] Under this narrower definition, only virtual worlds that go above and beyond traditional video games are considered a part of the Metaverse.[21]

For example, consider the online virtual world known as Second Life. Users initially create an avatar to interact within this virtual world in ways similar to reality,[22] including listening to music, watching movies, and having sex.[23] More importantly, however, Second Life allows users to engage in a variety of economic transactions using virtual currency known as Lindens (L), which can be exchanged with dollars at a rate varying between 280L and 350L per dollar.[24] Users can earn Lindens in a variety of ways. Some of the more traditional methods include getting a job, creating your own business and selling things you collect or create, or hosting events for other players and charging a small fee.[25] Users can also earn Lindens as a prize for winning various games or by stumbling upon what are called Money Trees.[26] The economic activity in Second Life has already produced a real-life millionaire.[27]

19. Brian Lloyd, *What Is 'Fortnite' and Why Is It So Popular?*, ENTERTAINMENT.IE, https://entertainment.ie/gaming/fortnite-explained-388238/ [https://perma.cc/DM49-WSMR] (last visited Mar. 11, 2024).

20. The ability to convert an item into crypto or cash often indicates economic value. However, direct conversion in the sense of participants trading a certain digital item for cash may not be necessary to identify economic value. It may be that the virtual world itself does not have a method of directly converting digital items or currency into crypto or cash, yet third parties still place value in terms of crypto or cash on such items. An example of this is the popular mobile multiplayer strategy game known as Clash of Clans. There is no way to sell or trade items for crypto or cash within the virtual world, yet because it takes so much time to build a virtual village, some people resort to purchasing fully developed Clash of Clans accounts online. *See Clash of Clans Accounts for Sale — CoC Bases & ID*, PLAYERAUCTIONS, https://www.playerauctions.com/clash-of-clans-account/ [https://perma.cc/YZG6-CPR2] (last visited Mar. 11, 2024).

21. *See infra* Part I.

22. Consider "real life" and "reality" as things outside the Metaverse.

23. Kristin Kalning, *If Second Life Isn't a Game, What Is It?*, NBC NEWS (Mar. 11, 2007, 6:23 PM), https://www.nbcnews.com/id/wbna17538999 [https://perma.cc/65VJ-HPDJ].

24. *See How to Earn Real Money in Second Life 2021?*, TAX TWERK (Sept. 30, 2021), https://taxtwerk.com/how-to-earn-real-money-in-second-life-2021/ [https://perma.cc/5TFH-3ZP7]; *see also* Rob Berger, *How to Earn a Second Income in Your 'Second Life*,*'* DOUGHROLLER (Apr. 1, 2022) [https://perma.cc/UAL9-U8P7].

25. *See* TAX TWERK, *supra* note 24.

26. *See id.*

27. Berger, *supra* note 24.

This Second Life example illustrates that there is no significant difference between how users earn income and accumulate wealth in the Metaverse and in reality. Various economic activities within the Metaverse not only satisfy the Haig–Simons definition of income but also resemble the types of gross income found in Section 61 of the Internal Revenue Code (the Code) and expanded on by *Glenshaw Glass*.[28] Hence, Metaverse income and wealth are theoretically within the right of any sovereign to tax.[29] Furthermore, Metaverse taxation can play a significant regulatory role by enhancing information reporting and transparency in the virtual economy.[30]

Nevertheless, imposing a tax on the Metaverse is uncharted territory with questions of varying complexity. In that vein, this Article discusses the taxability of self-created assets, rewards, and intra-metaverse transactions.[31] Although these income categories satisfy the definition of Haig–Simons income and gross income under *Glenshaw Glass*, further issues arise when dealing with complex or unique assets lacking an established market, such as virtual assets or currency in the Metaverse.[32] The big question is the timing of taxation—whether economic gains within the Metaverse should be taxed immediately upon receipt or deferred until realization or cash-out from the Metaverse.[33]

There is neither a clear rule nor a full-fledged discussion of taxing income and wealth within the Metaverse. However, there is an analogous discourse on taxing income from cryptocurrency transactions or virtual income in the pre-Metaverse era.[34] Many scholars take a practical stance, claiming to impose a tax on individuals only when they cash out their virtual assets or wealth.[35] Guidance from the Internal Revenue Service (IRS) on the taxability of cryptocurrency is closer to the Haig–Simons definition of income because it takes the stance that receipt of

28. *See* I.R.C. § 61(a) ("[G]ross income means all income from whatever source derived . . . ."); Comm'r v. Glenshaw Glass Co., 348 U.S. 426, 430 (1955) (explaining that "the catchall provision of [§ 61](a), 'gains or profits and income derived from any source whatever,'" reflects "the intention of Congress to tax all gains except those specifically exempted"); *see also* MICHAEL J. GRAETZ & ANNE L. ALSTOTT, FEDERAL INCOME TAXATION: PRINCIPLES AND POLICIES 76–77 (9th ed. 2022).

29. *See infra* Section II.B.1.

30. *See infra* Section II.B.2.

31. *See infra* Part III.

32. *See* Brian Galle, David Gamage & Darien Shanske, *Solving the Valuation Challenge: The ULTRA Method for Taxing Extreme Wealth*, 72 DUKE L.J. 1257, 1261–63 (2023); *infra* Section II.A.1. *See generally* Leandra Lederman, *Valuation as a Challenge for Tax Administration*, 96 NOTRE DAME L. REV. 1495 (2021).

33. *See infra* Part IV.

34. *See generally* Leandra Lederman, *"Stranger than Fiction": Taxing Virtual Worlds*, 82 N.Y.U. L. REV. 1620 (2007) (arguing for different federal income tax treatment of "game worlds" and "unscripted worlds"); Adam S. Chodorow, *Ability to Pay and the Taxation of Virtual Income*, 75 TENN. L. REV. 695 (2008) (arguing taxation of virtual income should depend on taxpayers' abilities to cash out); Bryan T. Camp, *Taxation of Electronic Gaming*, 77 WASH. & LEE L. REV. 661 (2020) (endorsing tax deferral until cash-out for income from electronic gaming); Reuven Avi-Yonah & Mohanad Salaimi, *A New Framework for Taxing Cryptocurrencies*, 77 TAX LAW. 1 (2023) (endorsing tax deferral of cryptocurrency until realization); Omri Marian, *Law, Policy, and the Taxation of Block Rewards*, 175 TAX NOTES FED. 1493 (2022) (endorsing taxation upon receipt of crypto assets immediately).

35. *See, e.g.*, Avi-Yonah & Salaimi, *supra* note 34, at 1.

cryptocurrency by mining and as payment for goods or services should also be included in gross income.[36] Still, the IRS's stance only applies to cryptocurrency and is bound by the realization requirement, meaning that value appreciation of cryptocurrency is not taxed until a subsequent sale or exchange. Under this approach, taxation of Metaverse income and wealth would be inevitably deferred until realization or cash-out from the Metaverse.[37] It would only be taxed upon receipt if the Metaverse income and wealth take a form of cryptocurrency. As a result, various economic activities in the Metaverse—such as minting an NFT, receiving a loot drop, and having virtual property appreciate in value[38]—would not be subject to taxation.

To be sure, postponing taxation of economic gains within the Metaverse until realization or cash-out makes some sense under the existing tax law, given that digital assets are often difficult to value and their illiquid nature can result in taxpayers lacking the cash to pay taxes.[39] Historically, tax law resolved these valuation and liquidity issues by implementing the realization requirement.[40] For more complex cases, like a record-breaking baseball or a fisherman's fish, the timing of taxation might be further delayed until the sale of the property,[41] thus making it easier to ascertain the asset's value and ensuring the taxpayer has the liquidity to pay the tax.[42]

However, realization is not without its flaws. Realization is not a holy rule that is required by the U.S. Constitution, as the taxpayers argue in a case pending before the Supreme Court, *Moore v. United States*.[43] Rather, realization is a

36. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 938–39; *see also* Alex Gailey & Kendall Little, *Yes, Your Crypto Is Taxable. Here's How to Report Cryptocurrency to the IRS in 2022*, TIME: NEXTADVISOR (May 23, 2022) [https://perma.cc/K5RT-GXTP]; *Frequently Asked Questions on Virtual Currency Transactions*, IRS (Aug. 18, 2023), https://www.irs.gov/individuals/international-taxpayers/frequently-asked-questions-on-virtual-currency-transactions [https://perma.cc/W8YS-RDF2].

37. Many websites explaining tax consequences of NFT transactions explain that creating an NFT is not a taxable event, but selling or exchanging one is. Here, realization or cash-out includes exchanging NFTs for cryptocurrency. *See, e.g.*, Tom Blake, *NFT Taxes: How Taxes on NFTs Work (and How to Track It)*, COLL. INV. (July 18, 2023), https://thecollegeinvestor.com/39239/how-taxes-on-nfts-work/ [https://perma.cc/WFZ5-KNNX]; Alicia Tuovila, *NFT Tax Guide*, INVESTOPEDIA (Dec. 5, 2022), https://www.investopedia.com/nft-tax-guide-5222726 [https://perma.cc/R9PN-4EUU].

38. *See* Debra Kamin, *The Next Hot Housing Market Is Out of This World. It's in the Metaverse.*, N.Y. TIMES (Feb. 19, 2023), https://www.nytimes.com/2023/02/19/realestate/metaverse-vr-housing-market.html (indicating the dramatic price increases of virtual real estate that neighbors parcels owned by celebrities and big name brands).

39. *See* Galle et al., *supra* note 32, at 1261, 1268.

40. *See id.* at 1262, 1269.

41. *See* Steven Daly, *Trinket or Treasure: Applying Taxes to a Home-Run Baseball Audience Catch*, TOMPKINS WKLY. (Nov. 16, 2022), https://www.tompkinsweekly.com/articles/trinket-or-treasure-applying-taxes-to-a-home-run-baseball-audience-catch/ [https://perma.cc/DV4B-U5CR]; Lederman, *supra* note 34, at 1645–48. *See generally* Joseph M. Dodge, *Accessions to Wealth, Realization of Gross Income, and Dominion and Control: Applying the "Claim of Right Doctrine" to Found Objects, Including Record-Setting Baseballs*, 4 FLA. TAX REV. 685 (2000).

42. *See* Galle et al., *supra* note 32, at 1269.

43. 36 F.4th 930, 934 (9th Cir.), *reh'g and reh'g en banc denied*, 53 F.4th 507 (9th Cir. 2022), *cert. granted*, 143 S. Ct. 2656 (2023). For scholarly discussion of *Moore*, see, for example, John R. Brooks & David Gamage, Moore v. United States *and the Original Meaning of Income* 1 (Fordham L. Legal Stud.,

policy choice for an income tax system in the real world where implementing an ideal income tax system based on the Haig–Simons definition of income is practically difficult.[44] Perhaps the most significant flaw of realization is that it incentivizes taxpayers to hold onto assets, instead of reinvesting the money they saved more efficiently, to mitigate or avoid taxes.[45] The realization approach also *inefficiently* influences taxpayer decisions to buy and sell property.[46] A taxpayer might hold onto appreciated property to avoid paying taxes or sell depreciated property to take advantage of deductions, even if it would otherwise make more sense to do the opposite.[47] Taxpayers may even forgo new profitable investment opportunities if they require selling appreciated property because the added cost of taxation outweighs the benefits.[48] Deferring taxation until the sale of an asset is also infamously *inequitable* because it primarily allows the wealthy to take advantage of lower capital gains rates or avoid paying taxes altogether.[49] Lastly, the complex rules and exceptions accompanying the realization principle impose a significant *administrative* burden.[50]

Hence, this Article argues that assets or wealth in the Metaverse should be taxed immediately upon receipt. More precisely, it asserts that the digital nature of the Metaverse allows tax administrations to move away from the realization requirement and its resulting inefficiencies, inequalities, and administrative burdens. For immediate taxation, this Article pushes for a mark-to-market method known as the Unliquidated Tax Reserve Account (ULTRA) system[51] to overcome the intrinsic valuation and liquidity challenges of Metaverse taxation.[52]

Research Paper No. 4491855, 2023), https://ssrn.com/abstract=4491855 [https://perma.cc/NV4F-ZKJC] (showing "that contemporary definitions of income did not incorporate—and could not have incorporated—the contemporaneous definition of realization, and that they in fact incorporated unrealized gain" (emphases omitted)). *Cf.* Petition for Writ of Certiorari at 17–21, *Moore*, 143 S. Ct. 2656 (Feb. 21, 2023) (No. 22-800); Reply Brief for Petitioners at 9–11, *Moore*, 143 S. Ct. 2656 (May 30, 2023) (No. 22-800).

44. Therefore, the legislature can make exceptions to the realization requirement and include unrealized gain in the income tax base. *See, e.g.*, Reuven S. Avi-Yonah, Letter to the Editor, *If* Moore *Is Reversed*, 110 TAX NOTES INT'L 1725, 1729 (2023) (illustrating various Code sections that impose tax on unrealized gains). This position is not limited to the United States. The Constitutional Court of South Korea held that realization is not a conceptual element of income and that it is a matter of legislative policy to either require realization for certain income or to include unrealized gains in the tax base. Hunbeobjaepanso [Const. Ct.], July 29, 1994, 92Hunba49 (consol.) (S. Kor.).

45. *See* Galle et al., *supra* note 32, at 1268.

46. *See id.* at 1270–71.

47. *Id.*

48. *Id.* at 1271 ("Often, it is economically rational to refuse to invest in a profitable new opportunity because the present value of switching is less than the cost of paying taxes on the swap.").

49. *Id.* at 1271–73.

50. *See id.* at 1273.

51. The method behind the ULTRA was proposed by Brian Galle, David Gamage, and Darien Shanske as a comprehensive annual wealth tax reform proposal for the state of California. *Id.* at 1264, 1314.

52. Taxing assets using the mark-to-market method would mean taxes are imposed annually on the change in the asset's value year-over-year. *Mark-to-Market (MTM)*, TAX FOUND., https://taxfoundation.org/taxedu/glossary/mark-to-market-mtm/ [https://perma.cc/4GFT-GGSD] (last visited Mar. 11, 2024).

The ULTRA system gives the government a notional percentage stake in a taxed asset upon receipt but defers actual taxation until the sale of the asset.[53] Thus, if an asset goes up in value, the tax on that asset goes up by a proportional amount, essentially charging the taxpayer an interest rate equivalent to their internal rate of return.[54] Taxing the Metaverse under the ULTRA system would skillfully resolve the valuation and liquidity issues relating to immediate taxation while removing the incentive for tax deferral that accompanies the realization requirement. Although the ULTRA system requires closely tracking changes in net wealth and value in unliquidated assets, the digital world records all digital activities, affording new methods of monitoring and tracking individual wealth.[55] Thus, the Metaverse, in conjunction with the ULTRA system, might present the perfect opportunity to experiment with taxing income that has escaped the tax base or is deferred due to administrative reasons. However, even if the ULTRA system is rejected, this Article still urges policymakers to push for immediate taxation of exchanges between metaverses (e.g., trading an NFT for another virtual good).

Lastly, this Article explores potential compliance issues in taxing the Metaverse.[56] The first step is to identify the proper tax jurisdiction: the residence of the taxpayer or the source of the income. The tax authority will likely rely on the users' and gamers' Internet Protocol (IP) addresses for residence taxation. However, these will be challenging to find because individuals can easily disguise their IP addresses. For source taxation, the Metaverse's server location is a highly plausible tax nexus. However, it is still only a proxy for the Metaverse, which has no physical location. If server location is considered an improper nexus for sourcing income, the locations of Metaverse platform companies might be a practical option.[57] Also, since these platforms create and run the new virtual world, their roles in tax compliance and administration may have to be strengthened. Therefore, it is worth considering introducing a withholding tax system for Metaverse income.

This Article provides various contributions to the scholarship on tax and technology. First, it offers a comprehensive and original analysis of the Metaverse's various tax issues. It explains the economic activities by which new value is created within the Metaverse and shows why the Metaverse is a new virtual world where the traditional tax rules cannot apply as they currently exist. This Article argues that the new rule for properly taxing the Metaverse should be the immediate taxation of Metaverse income. To support this normative argument, it clarifies the potential tax base for various categories of Metaverse income. It also provides

53. Galle et al., *supra* note 32, at 1264–65.

54. *Id.* at 1265.

55. *See, e.g.*, Young Ran (Christine) Kim, *Blockchain Initiatives for Tax Administration*, 69 UCLA L. REV. 240, 284–85 (2022) (explaining how the digital footprint in the blockchain can help improve tax administration).

56. *See infra* Part V.

57. *See* Roxanne Bland, *Taxing Income in the Metaverse*, FORBES (Oct. 24, 2022, 11:39 AM), https://www.forbes.com/sites/taxnotes/2022/10/24/taxing-income-in-the-digital-world/?sh=3ed08350199d.

three paradigm cases to distinguish between intra-metaverse income, inter-metaverse income, and cashing out to the real world.

Second, this Article challenges the traditional norm of realization in tax law and modernizes the policy debate concerning emerging technology. The current tax law requires realization due to valuation and liquidity problems. When applying the traditional rules to emerging technology, such as cryptocurrency, the current tax law has further retreated by deferring taxation until cash-out events. This Article argues that the Metaverse offers a unique opportunity to overcome the realization requirement by taking advantage of the digital world's ability to record all activity and wealth in real time. The Metaverse also allows for experimenting with novel mark-to-market taxation methods, such as the ULTRA system.

Finally, this Article's position that the Metaverse can be a laboratory for experimentation with cutting-edge policy might benefit broader audiences interested in the future of the Metaverse. Given the Metaverse's current status, tax authorities may feel it is convenient to continue to wait for individuals to cash out. However, at some point, tax authorities may have to admit the technology is such that the Metaverse is no longer a supplement to the real world but an actual part of it.[58] If such an event occurs, the questions become how quickly and to what extent the Metaverse will take over. The answer to these questions is uncertain.[59] That said, there is a reason Facebook recently chose to rebrand as Meta and Microsoft acquired Activision.[60] Despite the protests of old-timers and individual

58. *See* John Mac Ghlionn & Brad Hamilton, *Metaverse Clothing, Travel, Plastic Surgery: Experts Predict Life in 2030*, N.Y. POST (Feb. 23, 2022, 8:51 PM), https://nypost.com/2022/01/08/experts-predict-living-in-the-metaverse-by-2030/ [https://perma.cc/N648-MJWW] ("By 2030, 'a large proportion of people will be in the [M]etaverse in some way' . . . . Some will simply use it 'only to fulfill work or educational obligations' . . . . Others 'will live the majority of their waking hours "jacked in."' Using a 'blend of physical and behavioral biometrics, emotion recognition, sentiment analysis, and personal data,' the [M]etaverse will be able to create a customized and enhanced reality for each person . . . ." (quoting Melanie Subin, director, The Future Today Institute)).

59. According to a survey conducted by the Pew Research Center, 54% of experts said that they expect by 2040 the Metaverse "will be a much-more-refined and truly fully-immersive, well-functioning aspect of daily life for a half billion or more people globally." ANDERSON & RAINIE, *supra* note 7, at 6 (emphasis omitted). On the other hand, 46% said that they expect by 2040 the Metaverse "will not be a much-more-refined and truly fully-immersive, well-functioning aspect of daily life for a half billion or more people globally." *Id.* (emphasis omitted).

60. An article on Mark Zuckerberg's decision to rebrand Facebook as Meta stated the following:

> Whether Meta will stick as a brand depends on how the company will use the new name. For example, think of Alphabet, which is a holding company, not a consumer brand. As such, it hasn't become a household name. Meta will be less likely to stick if it is not attached to a product or service. It needs to become a brand that is relevant to consumers.
>
> Mark Zuckerberg, founder of Facebook/Meta, has linked the new brand name to his strategic plan to create a metaverse — a virtual world in which consumers spend increasing parts of their lives, based on AI and virtual reality (VR) technology. This is an important new phase in the digital world.

Klaus Wertenbroch, *Why Facebook Is Rebranding Itself as Meta*, INSEAD KNOWLEDGE (Jan. 24, 2022), https://knowledge.insead.edu/marketing/why-facebook-rebranding-itself-meta [https://perma.cc/XME7-GQ98]; *see also* Brian Quarmby, *Microsoft's Massive Metaverse Move: Buying Activision for* lawmakers, the Metaverse is likely to prevail if society continues on its current path. This Article's argument for implementing ULTRAs in the Metaverse will be even more relevant when it does. Moreover, the Metaverse's potential as a regulatory laboratory may extend beyond tax policy.

The remainder of this Article proceeds as follows. Part I offers a narrow definition of the Metaverse and discusses the economic activity occurring within it that invites the question of taxation. Part II acknowledges the inherent challenges accompanying Metaverse taxation due to the Metaverse's uncertain future and volatile nature while also providing normative policy arguments justifying such a tax. Part III then analyzes the tax base of various categories of Metaverse income, including earnings and profits, imputed income, rewards, and gains derived from dealings in virtual assets. Part IV examines the timing of Metaverse taxation. More specifically, it criticizes the position of deferring taxation until a subsequent realization or cash-out event. Instead, it proposes the introduction of a mark-to-market system, such as the ULTRA method. Lastly, Part V examines compliance issues accompanying Metaverse taxation, such as applying source or resident taxation and tax withholding. This Article concludes that the Metaverse allows tax authorities to test the consequences of modern tax policies, such as immediately taxing income that the law currently defers due to administrative reasons.

I. DEFINING THE METAVERSE

Facebook's rebranding to Meta brought attention to the Metaverse, but what exactly does the term "Metaverse" mean? From a technological standpoint, the Metaverse is the digital world.[61] If we were to accept such a broad characterization, the Metaverse would include virtual reality, augmented reality, and any digital world accessible outside those means.[62] However, this Article avoids such a broad characterization because a productive scholarly discussion requires a more concrete definition. Because this Article aims to discuss the taxation of the Metaverse, the focus will be on its economic features.

A. VIRTUAL ECONOMY

The Metaverse is a nebulous term with many meanings.[63] Almost all literature on the Metaverse begins by mentioning that Neil Stephenson coined the term in his 1992 science fiction novel *Snow Crash*.[64] After that, the academic literature

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$69B, COINTELEGRAPH (Jan. 19, 2022), https://cointelegraph.com/news/microsoft-s-massive-metaverse-move-buying-activision-for-69b [https://perma.cc/NUK9-A9MZ].

61. *See* Eric Ravenscraft, *What Is the Metaverse, Exactly?*, WIRED (June 15, 2023, 6:04 PM), https://www.wired.com/story/what-is-the-metaverse/; Luke Lango, *Thanks to VR, the Metaverse Is Still Destined for Greatness*, NASDAQ (May 24, 2023, 11:15 AM), https://www.nasdaq.com/articles/thanks-to-vr-the-metaverse-is-still-destined-for-greatness [https://perma.cc/2KLT-FJYV].

62. *See* Ravenscraft, *supra* note 61.

63. *See, e.g.*, Macedo et al., *supra* note 2, at 15; Markus Weinberger, *What is Metaverse?—A Definition Based on Qualitative Meta-Synthesis*, FUTURE INTERNET, Oct. 2022, at 1, 2; Bokyung Kye, Nara Han, Eunji Kim, Yeonjeong Park & Soyoung Jo, *Educational Applications of Metaverse: Possibilities and Limitations*, J. EDUC. EVALUATION FOR HEALTH PROS., Dec. 2021, at 1, 3.

64. *See, e.g.*, Macedo et al., *supra* note 2, at 13.

struggles to provide a uniform definition.[65] While some academics believe it is "meaningless to put effort into a clear and concise definition" of the Metaverse,[66] others have made attempts. One article explains the Metaverse as "a 3D-based virtual reality in which daily activities and economic life are conducted through avatars representing the real themselves."[67] Another defines the Metaverse as

> an interconnected web of ubiquitous virtual worlds partly overlapping with and enhancing the physical world. These virtual worlds enable users who are represented by avatars to connect and interact with each other, and to experience and consume user-generated content in an immersive, scalable, synchronous, and persistent environment. An economic system provides incentives for contributing to the Metaverse.[68]

Furthermore, some authors have gone as far as to argue that "metaverse means a world in which virtual and reality interact and co-evolve, and social, economic, and cultural activities are carried out in it to create value."[69]

Despite the lack of an objective definition, it is clear from the above discussion that the Metaverse is something more than a simple online playground, like a video game. It is more than a social network where people participate in virtual social activities. It also differs from a virtual copy of real economies, such as Facebook Marketplace or Craigslist. Rather, in the Metaverse, unique economic activities take place by inputting virtual goods and labor and producing virtual goods and services. For example, users may purchase digital real estate with unique digital currencies,[70] and law firms and accounting firms can open virtual offices and offer services.[71]

This Article focuses on the underlying economic activities within virtual worlds to define the Metaverse more narrowly and develop a theory of taxation. Given the United States' current reliance on income taxes, such a definition should track closely with the widely accepted Haig–Simons definition of income, which includes "gains or increases in wealth over a particular period regardless of whether spent on consumption or saved."[72] In other words, income is equal to a taxpayer's consumption plus changes in their net worth. Many digital worlds and games traditionally considered part of the Metaverse allow for consumption.

65. *See id.* at 15; *see also* Erl & Bastian, *supra* note 3.

66. Weinberger, *supra* note 63, at 2.

67. Kye et al., *supra* note 63, at 2.

68. Weinberger, *supra* note 63, at 13.

69. Kye et al., *supra* note 63, at 2.

70. Konrad Putzier, *Metaverse Real Estate Piles Up Record Sales in Sandbox and Other Virtual Realms*, WALL ST. J. (Nov. 30, 2021, 5:33 AM), https://www.wsj.com/articles/metaverse-real-estate-piles-up-record-sales-in-sandbox-and-other-virtual-realms-11638268380?mod=article_inline.

71. *See, e.g.*, *How PwC Is Building the Business Metaverse for Our People and Our Clients*, PWC (Nov. 3, 2022), https://www.pwc.com/us/en/tech-effect/innovation/building-trust-and-delivering-value-in-metaverse.html [https://perma.cc/MTK2-NAEX]; Love, *supra* note 9.

72. MILLER & MAINE, *supra* note 17, at 20; *see* HENRY C. SIMONS, PERSONAL INCOME TAXATION: THE DEFINITION OF INCOME AS A PROBLEM OF FISCAL POLICY 50 (1938).

For example, using real currency, Fortnite allows players to purchase various skins, weapon wraps, and in-game currency.[73] Nevertheless, only the worlds allowing players to *produce income and accumulate wealth* are relevant to taxation.[74]

Thus, for this Article, the term "Metaverse" is used to describe any network of virtual worlds wherein participants engage in economic activity, including the ability to consume, create, trade, and accumulate digital items with real economic value. An item has real economic value if it can be converted to or at least valued in a taxable currency such as cryptocurrency or the U.S. dollar.

B. ECONOMIC ACTIVITIES IN THE METAVERSE

Under this narrower definition, only virtual worlds with interactive capabilities beyond traditional video games can be considered a part of the Metaverse. The online virtual world known as Second Life, described above,[75] is one example that would fall under this narrower definition. Another is the Entropia Universe, an open world made up of a complex planetary system that boasts a "universal Real Cash Economy system" reliant upon an in-game currency known as a Project Entropia Dollar (PED).[76] Each PED is exchangeable for real-world dollars at a fixed rate of ten PEDs per dollar.[77] While one can purchase PEDs directly, the in-game possibilities to earn PEDs are endless.[78] Traditional methods include creating, gathering, looting, or purchasing items of value (e.g., raw resources, clothing, or property) and either selling them to the in-game terminal at a fixed price or auctioning them off to other players at a premium.[79] Participants also have the opportunity to earn PEDs as a reward or prize for participating in various activities.[80] Players less interested in playing the game directly can earn PEDs by taking on service roles, such as a merchant who runs a store for other players or a pilot who delivers players to different areas of the map.[81] Perhaps the most intriguing aspect of the Entropia Universe's economy is the ability to earn passive income. Players can purchase and manage virtual land, earning revenue from all player activity in that area.[82] One such property was famously bought for $330,000 in 2009.[83] Another way to earn passive income is

73. *See Fortnite 1,000 V-Bucks*, GAMESTOP, https://www.gamestop.com/gift-cards/virtual-currency/products/fortnite-1000-v-bucks/402703.html [https://perma.cc/5M67-JMRR] (last visited Mar. 11, 2024).

74. *See generally* Lederman, *supra* note 34.

75. *See supra* notes 22–27 and accompanying text.

76. *The Universe: More than a Game*, ENTROPIA UNIVERSE, https://www.entropiauniverse.com/entropia-universe/ [https://perma.cc/8P2A-JZ7N] (last visited Mar. 12, 2024); *see 14 Ways to Earn Money in Entropia Universe*, GOOD MISERY (July 16, 2020), https://goodmisery.com/14-ways-to-earn-money-playing-entropia-universe/ [https://perma.cc/5TBF-4AQK].

77. GOOD MISERY, *supra* note 76.

78. *See id.*

79. *Id.*

80. *Id.*

81. *Id.*; *Get Paid to Play Entropia Universe*, EXPLORE ENTROPIA UNIVERSE, https://www.exploreentropia.com/blog/get-paid-to-play-entropia-universe [https://perma.cc/7YPF-JBPZ] (last visited Mar. 12, 2024).

82. GOOD MISERY, *supra* note 76.

83. *Id.*

by purchasing virtual land deeds or shares of stock, which earn users an expected return of 5% to 8% per year.[84]

As a final illustration, consider the online battle video game Axie Infinity. At its core, the game allows players to breed digital creatures known as Axies and use them to fight other players.[85] Interestingly, each Axie is an NFT that can be sold separately in an NFT marketplace.[86] The game also has an in-depth economy that allows players to buy, sell, and trade resources for one of two types of Ethereum-based in-game cryptocurrencies, namely Axie Infinity Shards (AXS) and Small Love Potions (SLP).[87] Players can earn in-game cryptocurrency by playing the game (i.e., winning battles) or raising and selling Axies.[88] Another unique way to earn in-game cryptocurrency is to provide new players with scholarships.[89] Axie Infinity has a high upfront fee (worth USD $600) to purchase an Axie, which inevitably disqualifies lower income people in the real world.[90] To overcome this barrier, users can accept a scholarship from an existing player whereby they accept a free Axie in exchange for giving their sponsor a cut of their winnings.[91] Like Second Life and the Entropia Universe, Axie Infinity players can earn significant income from these online economic activities.[92]

As Parts II and III will discuss in more detail, there is no meaningful difference between how players accumulate economic wealth in the Metaverse versus reality. Thus, it is worth considering whether such activities should be taxed and, if so, how. Simply ignoring these questions because the Metaverse exists on a plane foreign to many lawmakers cannot be excused.[93]

Note that most of this Article is limited to activities that remain entirely within the boundaries of the Metaverse. In other words, this Article does not focus on the entrance to and exit from the Metaverse. Instead, it concentrates on economic activities and transactions between parties within the Metaverse such as when Metaverse participants generate income by renting out virtual land or completing

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84. *Id.*

85. Sam Greenspan, *The Complete Guide to Make Money with Axie Infinity (Plus: How Much Can You Earn?)*, KNOJI (Jan. 11, 2022), https://knoji.com/article/make-money-with-axie-infinity/ [https://perma.cc/85JC-MTJC].

86. *Id.*

87. *Id.*

88. *See id.*; Ekta Mourya, *Here's How Axie Infinity Players Are Earning Nearly $500/Month in Crypto Rewards*, FXSTREET (Aug. 19, 2021, 8:44 AM), https://www.fxstreet.com/cryptocurrencies/news/heres-how-axie-infinity-players-are-earning-nearly-500-month-in-crypto-rewards-202108190844 [https://perma.cc/5XUJ-REM3].

89. Greenspan, *supra* note 85.

90. *See id.*

91. *Id.*

92. *See id.*

93. *See* Lily Hay Newman, *The Future of Tech Is Here. Congress Isn't Ready for It*, WIRED (Jan. 7, 2022, 2:57 PM), https://www.wired.com/story/will-hurd-tech-regulation-american-reboot/ (discussing author and former congressman Will Hurd's call for "the US government and state and local legislatures across the country to sharpen their understanding of the role of technology as misinformation, data abuse, and emerging technologies like AI become increasingly influential in domestic affairs and geopolitics").

online tasks. For instance, Fortnite players who experience server outages may be compensated with V-Bucks, which they can use to purchase various in-game items such as outfits.[94] None of the parties involved in these scenarios need to exit the Metaverse to receive something of economic value.

II. SHOULD THE METAVERSE BE TAXED?

Building upon the definition of the Metaverse, the next logical step is to ask whether the Metaverse should be subject to taxation. The Metaverse's digital nature and uncertain future might tempt some to answer that question negatively. This Part will explore the practical issues relating to the size of the Metaverse tax base and the volatility of Metaverse assets. Although this Article does not claim to have the perfect answer to all of these questions, this Part will introduce the different problems and then provide two possible rationales for taxation to fuel further conversation on this topic. First, certain economic activities in the Metaverse satisfy the Haig–Simons definition of income. The Metaverse offers many opportunities for earning regular and imputed income, receiving rewards, and transacting.[95] Hence, at least theoretically, such income should be subject to taxation. Otherwise, income generated therein becomes "stateless income," making the Metaverse another tax haven.[96] Second, as observed in the recent collapse of cryptocurrency markets,[97] which are closely related to the Metaverse, introducing taxation may enhance transparency and regulatory monitoring. Thus, the Metaverse should be subject to taxation.

A. CHALLENGES

1. Size

One of the biggest issues facing the taxation of the Metaverse is that it has a relatively small tax base and an even smaller number of taxable transactions. The Metaverse is currently estimated to have 400 million active monthly users.[98] The

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94. *See* Kusshal Mehta, *Fortnite Players Could Be Getting 1,000 Free V-Bucks Due to Server Issues*, FIRST SPORTZ (Oct. 8, 2022, 6:33 PM), https://firstsportz.com/esports-news-fortnite-fortnite-players-could-be-getting-1000-free-v-bucks-due-to-server-issues/ [https://perma.cc/Z4FD-SPZL].

95. *See, e.g.*, Brian Meiggs, *How to Make Money in the Metaverse (20 Proven Ways)*, MY MILLENNIAL GUIDE (July 26, 2022), https://www.mymillennialguide.com/how-to-make-money-in-the-metaverse/ [https://perma.cc/H8HJ-FUT9]; Jeffrey Craig, *How to Make Passive Income in the Metaverse?*, PHEMEX (Oct. 12, 2022, 10:08 AM), https://phemex.com/blogs/passive-income-metaverse [https://perma.cc/J8UH-BVG7]; Kristi Waterworth, *How Do I Make Money in the Metaverse?*, MOTLEY FOOL (May 3, 2022, 5:36 PM), https://www.fool.com/investing/2022/05/03/how-do-i-make-money-in-the-metaverse/ [https://perma.cc/6AW3-2JW6].

96. For a discussion of stateless income, tax havens, and related tax problems, see generally Edward D. Kleinbard, *Stateless Income*, 11 FLA. TAX REV. 699 (2011).

97. *See, e.g.*, Michael Adams & Benjamin Curry, *Why Is Crypto Down Today?*, FORBES ADVISOR (Aug. 18, 2023, 12:00 AM), https://www.forbes.com/advisor/investing/cryptocurrency/why-is-crypto-down-today/ [https://perma.cc/EZ2J-H8HZ].

98. *See, e.g.*, Geri Mileva, *48 Metaverse Statistics: Market Size & Growth (2023)*, INFLUENCER MKTG. HUB (Nov. 6, 2023), https://influencermarketinghub.com/metaverse-stats/ [https://perma.cc/N6QH-W4J8]; KZero Worldswide, *The Metaverse Reaches 400m Monthly Active Users*, LINKEDIN (Mar. 12, 2022), https://www.linkedin.com/pulse/metaverse-reaches-400m-monthly-active-users-

player base of three popular video games—Roblox, Minecraft, and Fortnite—makes up the vast majority of these users.[99] While these games are considered a part of the Metaverse, they are not the idealistic versions being propagated to the masses by the likes of Mark Zuckerberg, where social and economic interactions resemble those in real life.[100] Meta's own flagship metaverse platform, Horizon Worlds, has an unimpressive (relative to its investment) monthly average user base of less than 200,000.[101] Many other Metaverse platforms that try to create the idealistic version of the Metaverse have similarly minuscule and often declining populations.[102]

All this to say, most of the Metaverse is people playing three video games predominantly marketed to and used by children.[103] A tiny minority of participants are likely to be taxable users engaging in taxable economic activity. Thus, some may argue that a tax on the Metaverse in its current form may not even be worth the costs of the implementation, including building the tracking infrastructure for tax authorities and altering laws to apply taxation to the Metaverse. Additionally, at the rate the industry is going, the Metaverse might be years, if not decades, away from reaching a scale where this population will significantly change.

2. Volatility

Another issue with taxing the Metaverse is the volatility of digital assets. One need only look at the cryptocurrency market's 70% devaluation (approximately $2 trillion loss) over the past year to see that digital assets are highly volatile.[104] As 2022 decimated the cryptocurrency and NFT markets, and as most metaverses are quickly burning through capital with little revenue, it is unclear how long the Metaverse will continue to remain in the public sphere and receive support in its

metaversed/?trk=pulse-article_more-articles_related-content-c [https://perma.cc/R2PX-W78W]; *see also Q4 Metaverse Universe Update*, METAVERSED, https://metaversed.webflow.io/blog/q4-universe-chart-update [https://perma.cc/B957-BPMF] (last visited Mar. 12, 2024).

99. Virender Singh, *The Metaverse: Exploring New Possibilities for Marketers Within the Digital Realm*, HCLTECH (Jan. 17, 2023), https://www.hcltech.com/trends-and-insights/metaverse-exploring-new-possibilities-marketers-within-digital-realm [https://perma.cc/DM7A-L2D7] ("An estimated 400 million active users visit a metaverse platform every month. The largest chunk comes from Roblox (230 million), followed by Minecraft (165 million), and Fortnite (85 million).").

100. *See* Carmela Chirinos, *Mark Zuckerberg Defies Haters of the Metaverse, Reveals His Vision for a Digital World Where You Can Make Eye Contact with Others*, FORTUNE (Mar. 25, 2022, 7:24 PM), https://fortune.com/2022/03/25/mark-zuckerberg-metaverse-plans/.

101. *See, e.g.*, James Batchelor, *Meta's Flagship Metaverse Horizon Worlds Struggling to Attract and Retain Users*, GAMESINDUSTRY.BIZ (Oct. 17, 2022), https://www.gamesindustry.biz/metas-flagship-metaverse-horizon-worlds-struggling-to-attract-and-retain-users [https://perma.cc/GZZ2-AMX8]; Akira Ming, *Meta's Horizon Worlds Is Reportedly Struggling to Retain Users*, PLAYTOEARN (Oct. 18, 2022), https://playtoearn.net/news/metas-horizon-worlds-is-reportedly-struggling-to-retain-users [https://perma.cc/H5KJ-SJ5U].

102. *See, e.g.*, Thompson, *supra* note 13 ("Data from DappRadar suggests metaverse platforms Decentraland and The Sandbox each have fewer than 1,000 'daily active' users, despite $1 billion valuations.").

103. *See* METAVERSED, *supra* note 98 (showing that "Kids, Tweens & Teens" make up a significant portion of virtual worlds' monthly active users).

104. Levy & Sigalos, *supra* note 15.

development.[105] One can also argue that interest in the Metaverse is merely a fad rekindled by Facebook's rebrand to Meta in 2021.[106] The Metaverse became popular almost two decades ago through the advent of Second Life and other online platforms.[107] It later faded from the public consciousness and went into obscurity.[108] If it happened once before, there is no reason it cannot happen again. Even a few years ago, there was a massive boom in augmented reality with Google Glasses and Snapchat Spectacles. After realizing there was no substantial public interest, these projects mostly died.[109] Perhaps Meta is only carrying on the virtual reality and metaverse push because companies like Google and Apple dominate their traditional ad-supported business models.[110] Regardless, it could be only a matter of time before out-of-touch idealists stop pushing the facade of the Metaverse and abandon it like many other unsuccessful projects before.

Furthermore, a series of scandals in the digital currency exchanges cast doubts on the future of the Metaverse. For example, in November 2022, the digital currency exchange FTX experienced a major collapse, leading to significant investor losses.[111] This event underscores the potential risks of investing in the volatile world of crypto assets and highlights the need for careful regulation of the industry. The collapse of FTX also serves as a reminder of the importance of due diligence for investors and the need for robust reporting and transparency requirements for digital currency exchanges.[112] These issues are particularly relevant in the context of the Metaverse, where the use of digital currencies and assets is increasingly common.[113] The FTX collapse serves as a cautionary tale for those looking to invest in the Metaverse and highlights the need for careful consideration and oversight of the industry.

105. *See id.*; *see also* Shukla, *supra* note 15; Picchi, *supra* note 11.

106. *See* META, *supra* note 1; GOOGLE TRENDS, *supra* note 2.

107. Toin Villar, *What Is Second Life? A Brief History of the Metaverse*, MAKEUSEOF (Apr. 11, 2022), https://www.makeuseof.com/what-is-second-life-history-metaverse/ [https://perma.cc/8DFJ-2LBB].

108. *See* sources cited *supra* note 12.

109. *See* Dani Di Placido, *Why Snapchat's Spectacles May Succeed Where Google Failed*, FORBES (Sept. 24, 2016, 3:57 PM), https://www.forbes.com/sites/danidiplacido/2016/09/24/snaps-spectacles-may-succeed-where-google-failed/?sh=378fd72e12fc; *see also* Patrick Kulp, *Snap Lost $40 Million on Spectacles*, MASHABLE (Nov. 7, 2017), https://mashable.com/article/snap-unsold-spectacles [https://perma.cc/E7X3-JG2P].

110. *See* Kurt Wagner, Mark Bergen & Matthew Townsend, *Meta Is Now Calling Out Google Over Apple's App Privacy Rules*, BLOOMBERG (Feb. 9, 2022, 1:44 PM), https://www.bloomberg.com/news/articles/2022-02-09/apple-critic-meta-turns-ire-toward-google-over-app-privacy-rules#xj4y7vzkg.

111. *See* Huang, *supra* note 15.

112. *See* Sean Stein Smith, *FTX's Collapse Highlights the Need for Better Crypto Reporting Requirements*, FORBES (Nov. 14, 2022, 5:47 AM), https://www.forbes.com/sites/seansteinsmith/2022/11/14/ftxs-collapse-highlights-the-need-for-better-crypto-reporting-requirements/?sh=eea3b882fc21.

113. *See* EMMA LEE & HENRY HON, TRAVELLING THE METAVERSE THROUGH NFTS AND DIGITAL ASSETS 10–24 (2021), https://crypto.com/research/travelling-metaverse-through-nfts-digital-assets [https://perma.cc/48D4-J4AH].

B. RATIONALES FOR TAXATION

1. Theoretical Reasons

Despite its challenges, there are both theoretical and practical justifications to support taxing the Metaverse. First, let us examine the theoretical reasons. Much of the economic activity occurring within the Metaverse falls under the widely accepted Haig–Simons definition of income, which is defined as "the algebraic sum of (1) the market value of rights exercised in consumption and (2) the change in the value of the store of property rights between the beginning and end of the period in question."[114] In other words, Haig–Simons income is defined as consumption plus the change in net worth. As demonstrated in Section I.B and further discussed in Part III, participants of the Metaverse earn income, such as business profits, salary, rewards and windfalls, investment income, and gains from property dealings. Such activity falls under the Haig–Simons conception of income as participants can spend and accumulate in-game currency and other digital items that hold real economic value.

Further strengthening this argument is that many of these activities closely resemble the various types of gross income found in Section 61 of the Code and expanded on by *Glenshaw Glass*.[115] For example, earning in-game currency by running a profitable store or transporting other players to different parts of the map looks like gross income derived from a business or compensation for services.[116] Moreover, selling appreciated digital property or land falls under "[g]ains derived from dealings in property."[117] Even selling a self-created digital item for profit or stumbling upon a valuable reward resembles imputed income and a windfall.[118]

Moreover, a sovereign with the implicit right to tax economic activity outside the Metaverse (or in the real world) has the same right to tax similar transactions within the digital space. Many scholars believe that "the right to tax is intrinsically associated with sovereign status," as it is the primary means for a government to support itself.[119] Numerous countries, including the United States, choose to exercise this inherent right under the income theory of taxation.[120] As a

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114. SIMONS, *supra* note 72, at 50.

115. Section 61 of the Code offers a list of income categories. But the list is not exhaustive. I.R.C. § 61(a). Therefore, the IRS and the courts have further clarified the definition of income. *Glenshaw Glass* is considered the case that best defines the definition of income, which posits that income should be broadly construed in the absence of a specific congressional directive to the contrary. Comm'r v. Glenshaw Glass Co., 348 U.S. 426, 431 (1955). Hence, windfalls, for example, are not included in Section 61's list of income categories but would and should be included in gross income under *Glenshaw Glass*. *Id.* at 429–30; *see also* GRAETZ & ALSTOTT, *supra* note 28, at 76–77.

116. I.R.C. § 61(a)(1)–(2); *see* GOOD MISERY, *supra* note 76; EXPLORE ENTROPIA UNIVERSE, *supra* note 81; *see also* Lederman, *supra* note 34, at 1665–70.

117. I.R.C. § 61(a)(3); *see supra* note 82 and accompanying text.

118. *See Glenshaw Glass*, 348 U.S. at 429–30.

119. Allison Christians, *Sovereignty, Taxation and Social Contract*, 18 MINN. J. INT'L L. 99, 104 n.9 (2009).

120. *See* ORG. FOR ECON. COOP. & DEV., REVENUE STATISTICS 2022: THE IMPACT OF COVID-19 ON OECD TAX REVENUES 21 (2022).

result, the sovereign state should theoretically tax any gains associated with such activities.

With taxation, the economic activity within the Metaverse can potentially become a significant revenue source. Without taxation, it runs the risk of becoming a new tax haven. Illustrative of this is the story of Julian Dibbell, author of the book *Play Money: Or, How I Quit My Day Job and Made Millions Trading Virtual Loot*.[121] In the book, Julian recounts how he sought IRS guidance on how to report his significant 2003 earnings from Ultima Online and found that no one at the IRS was even thinking about virtual economies.[122]

While the IRS has come a long way since 2003, it has yet to issue Metaverse-specific tax rules. However, the IRS has issued guidance on related technologies such as cryptocurrencies, making it clear that virtual currencies exchangeable for real-world currencies are taxable, whereas "closed-loop" currencies are not.[123] For example, the IRS has clarified that Fortnite's V-Bucks and Roblox's Robux are not to be taxed because they cannot be converted into dollars.[124]

However, is this the correct approach if such activities still have economic value? By limiting taxation to exclude closed-loop currencies, the IRS potentially leaves millions of dollars of taxable income on the table and opens the door for a potential tax haven. One source aptly predicts "[i]t'll get to the point where the dollar value becomes so sizeable that the IRS would be almost negligent if it didn't at least look into the potential of taxing these worlds."[125] A Bloomberg article also explains that

> [i]f a company decides to develop its own NFTs and sell those in a metaverse —such as a fashion company selling unique branded clothes which can be worn by an avatar—any gain realized on an increase of value of the relevant NFT may also be taxed along with the crypto currencies the company receives in return.[126]

In short, economic activities and the resulting income in the Metaverse, even if it is closed-looped, should be taxed. Otherwise, we are creating a new tax haven.

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121. JULIAN DIBBELL, PLAY MONEY: OR, HOW I QUIT MY DAY JOB AND MADE MILLIONS TRADING VIRTUAL LOOT (2006).

122. *See generally id.*

123. Miles Brooks, *Will I Have to Pay Taxes in the Metaverse?*, COINLEDGER, https://coinledger.io/blog/metaverse-taxes [https://perma.cc/97AH-H3SX] (last visited Mar. 12, 2024).

124. *Id.*

125. Clive Thompson, *The Virtual Taxman Cometh*, WIRED (Dec. 18, 2006, 2:00 AM) (statement of Dan Miller, Sr. Economist, Joint Econ. Comm.), https://www.wired.com/2006/12/the-virtual-taxman-cometh/ [https://perma.cc/NX2X-23MK]; *see also* Jamie S. Switzer & Ralph V. Switzer Jr., *Taxation of Virtual World Economies: An Empirical Review*, AOIR: PERFORMANCE & PARTICIPATION, Oct. 2011, at 1, 3, https://spir.aoir.org/ojs/index.php/spir/article/view/8889/7088 [https://perma.cc/B9DQ-KQED].

126. Roger van de Berg & Henrik Stipdonk, *Tax Problems Become More Complex When Entering the Metaverse*, BLOOMBERG TAX (Sept. 13, 2022, 4:45 AM), https://news.bloombergtax.com/tax-insights-and-commentary/tax-problems-become-more-complex-when-entering-the-metaverse.

2. Regulatory Reasons

Taxing the Metaverse can also play a significant regulatory role by enhancing information reporting and transparency in the financial market relating to the virtual economy. The need for such regulation—particularly in markets involving cryptocurrency, NFTs, and other blockchain innovations closely related to the Metaverse—has become increasingly apparent in recent years.[127] Consider the dramatic collapse of FTX, which some call the "Lehman Brothers of Crypto."[128] In only a few short days, FTX went from being the fourth-largest cryptocurrency exchange in the world—with a value of $32 billion—to filing for Chapter 11 bankruptcy, losing over $1 billion of customer funds, and being investigated for potential criminal and security violations.[129] The rapid downfall of FTX resulted from a liquidity run on FTX's native coin, which was ultimately triggered by a single article raising concerns about the solvency of FTX.[130]

In the aftermath of FTX, many called for more proactive regulation of these new and developing markets, including establishing clear reporting and transparency requirements.[131] Interestingly, tax policy is a particularly effective tool to accomplish such goals in financial markets.[132] Consider the Report of Foreign Bank and Financial Accounts (FBAR) and the Foreign Account Tax Compliance Act (FATCA) in conjunction with the Swiss Bank Program. FBAR and FATCA are federal laws that require United States persons—including individuals, companies, and trusts—to report their financial accounts held outside of the United States to the Treasury Department and the IRS.[133] To promote global compliance

127. *See* Smith, *supra* note 112.

128. Phil Rosen, *The Lehman Brothers of Crypto: Here's How the Fall of Sam Bankman-Fried's FTX Compares to the Collapse that Sparked the Great Financial Crisis*, BUS. INSIDER (Nov. 14, 2022, 6:05 AM), https://www.businessinsider.com/lehman-brothers-crypto-sam-bankman-fried-ftx-2008-crisis-investing-2022-11 [https://perma.cc/4BRZ-ZQ46].

129. Farran Powell, *FTX Ex-CEO Sam Bankman-Fried Is Arrested*, FORBES ADVISOR (Dec. 13, 2022, 9:49 AM) [https://perma.cc/WE6P-4PE6]; Angus Berwick, *Exclusive: At Least $1 Billion of Client Funds Missing at Failed Crypto Firm FTX*, REUTERS (Nov. 13, 2022, 5:00 PM), https://www.reuters.com/markets/currencies/exclusive-least-1-billion-client-funds-missing-failed-crypto-firm-ftx-sources-2022-11-12/ [https://perma.cc/MHQ2-LN3A].

130. *See* Powell, *supra* note 129; Rosen, *supra* note 128; *see also* Ian Allison, *Divisions in Sam Bankman-Fried's Crypto Empire Blur on His Trading Titan Alameda's Balance Sheet*, COINDESK (Aug. 16, 2023, 5:56 PM), https://www.coindesk.com/business/2022/11/02/divisions-in-sam-bankman-frieds-crypto-empire-blur-on-his-trading-titan-alamedas-balance-sheet/ [https://perma.cc/RE8H-3C4H].

131. *See, e.g.*, Smith, *supra* note 112.

132. *See* Carlo Garbarino & Giulio Allevato, *The Global Architecture of Financial Regulatory Taxes*, 36 MICH. J. INT'L L. 603, 612 (2015) ("[F]inancial regulatory taxes can constitute an efficient market-based solution insofar as they impose additional costs on certain financial actors' excessive risk-taking behavior equal to the negative externalities generated by such behavior."); *see also* Reuven S. Avi-Yonah, *Taxation as Regulation: Carbon Tax, Health Care Tax, Bank Tax and Other Regulatory Taxes*, ACCT. ECON. & L., Jan. 2011, at 1, 9 ("[T]axation as regulation makes sense when (1) it is applied to small numbers of taxpayers, (2) the taxpayers are sophisticated and able to deal with complex tax incentives, (3) the regulatory goal is clear and related to the level of the tax. The bank tax, the carbon tax, and other forms of corporate taxation meet these criteria.").

133. *Report of Foreign Bank and Financial Accounts (FBAR)*, IRS (July 5, 2023), https://www.irs.gov/businesses/small-businesses-self-employed/report-of-foreign-bank-and-financial-accounts-fbar [https://perma.cc/U29F-DHDK]; *Summary of Key FATCA Provisions*, IRS (Sept. 28, 2023), https://

with FATCA, the United States signed an intergovernmental agreement with Switzerland whereby Swiss financial institutions must automatically report to the Swiss Federal Tax Administration (FTA) any accounts held by U.S. taxpayers.[134] In return, the Swiss FTA passes this information to the IRS.[135] This agreement has had a significant impact on the Swiss banking industry. Swiss banks have been obliged to invest in the technology and resources needed to identify and report United States-related accounts and adjust their compliance processes to ensure that accounts are correctly identified and reported.[136]

Benchmarking the success in the traditional financial market, using tax policy as a regulatory tool to improve reporting and transparency in the crypto financial markets is already in progress.[137] Perhaps the most notable example is the Organisation for Economic Co-operation and Development's (OECD) Crypto-Asset Reporting Framework (CARF), which was developed to combat the unique risks that crypto assets pose to global tax transparency.[138] Namely, crypto assets are transferred and held without going through traditional financial intermediaries, making it difficult for tax administrations to verify whether taxes are appropriately reported and assessed.[139] CARF attempts to resolve this issue by ensuring a standardized and automatic exchange of tax information for crypto-asset transactions on an annual basis with taxpayers' resident jurisdiction.[140] Under CARF, qualifying service providers are subject to various reporting rules and due diligence requirements because they are in the best position to have all the necessary information.[141]

The United States also uses tax policies to enforce reporting requirements and increase transparency in various crypto markets. The IRS issued ad hoc guidance on cryptocurrency reporting as early as 2014 when it published a notice clarifying

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www.irs.gov/businesses/corporations/summary-of-key-fatca-provisions [https://perma.cc/6XN6-VEVS]; *see also* Press Release, DOJ, Justice Department Reaches Final Resolutions Under Swiss Bank Program (Dec. 29, 2016), https://www.justice.gov/opa/pr/justice-department-reaches-final-resolutions-under-swiss-bank-program [https://perma.cc/6PEL-ZLLP]; Marnin J. Michaels, George M. Clarke, Martin P. Furrer & James J. Dries, *The DOJ's Swiss Bank Program: Lessons Learned and the Road Ahead*, PRAC. L., Aug.–Sept. 2016, at 50, 52.

134. *See* Announcement, KPMG, Switzerland: Issued FATCA Notifications (Mar. 26, 2021), https://assets.kpmg.com/content/dam/kpmg/us/pdf/2021/03/tnf-fatca-switzerland-mar26-2021.pdf [https://perma.cc/D5PP-FXUV]; Michaels et al., *supra* note 133, at 52.

135. *See* Announcement, KPMG, *supra* note 134.

136. *See* Armando Mombelli, *Swiss Banks to Tell All Under FATCA*, SWI (June 30, 2014, 11:00 AM), https://www.swissinfo.ch/eng/us-legislation_swiss-banks-to-tell-all-under-fatca/40473870 [https://perma.cc/NR6D-45YY].

137. *See, e.g.*, Young Ran (Christine) Kim, *Tax Reporting as Regulation of Digital Financial Markets*, 80 WASH. & LEE L. REV. 1181, 1192 (2023) (describing international efforts to regulate digital finance through tax reporting frameworks).

138. ORG. FOR ECON. COOP. & DEV., CRYPTO-ASSET REPORTING FRAMEWORK AND AMENDMENTS TO THE COMMON REPORTING STANDARD 9–10 (2022), https://www.oecd.org/tax/exchange-of-tax-information/crypto-asset-reporting-framework-and-amendments-to-the-common-reporting-standard.pdf [https://perma.cc/M4DV-8HXD].

139. *Id.* at 9.

140. *Id.* at 6, 9–10.

141. *Id.* at 11, 14–18.

that any gain or loss from the sale of "virtual currency" must be reported with the basis equaling the fair market value of the currency upon receipt.[142] It also clarified that the fair market value (upon receipt) of any virtual currency received as payment for goods or services must be reported as gross income, including mining efforts.[143] More recently, the IRS amended Form 1040 to ask whether the taxpayer received, sold, sent, exchanged, or otherwise acquired any financial interest in any virtual currency since 2020.[144]

Despite these efforts, studies showed that U.S. taxpayers were still not paying appropriate taxes on cryptocurrency transactions.[145] In response, the Infrastructure Investment and Jobs Act (IIJA) of 2021 introduced new reporting requirements related to crypto assets "to bring transparency to the market while also giving taxpayers greater certainty as to their taxable gains and losses related to the transaction of digital assets."[146] Similar to the OECD proposal, the IIJA puts the responsibility on digital asset brokers to collect customer information and report to the IRS all transactions involving digital assets in an annual tax report such as Form 1099-B or another form that the IRS designs.[147] It also requires digital asset brokers to furnish transfer statements whenever digital assets are transferred and puts the responsibility on any trade or business that receives more than $10,000 in cash in exchange for a digital asset to file a Form 8300 within fifteen days.[148]

CARF has yet to be fully implemented[149] and IIJA was implemented starting in 2023;[150] thus, their regulatory effectiveness in the crypto market is uncertain. Nevertheless, tax policy has proven to be an effective tool to increase transparency and enforce reporting requirements in traditional financial markets. The

142. I.R.S. Notice 2014–21, 2014-16 I.R.B. 938, 938.

143. *Id.* at 939.

144. *See* IRS, *supra* note 36.

145. Adam Goldberg, William Sheridan & Yvonne Kunihira-Davidson, *What the US Infrastructure Bill Means for Cryptocurrency Brokers and Owners: Part II*, S&P GLOB. MKT. INTEL. (Dec. 20, 2021), https://www.spglobal.com/marketintelligence/en/mi/research-analysis/what-the-us-infrastructure-bill-means-for-cryptocurrency-brokers-and-owners.html [https://perma.cc/Z5XV-KVGX].

146. *Id.*; Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, § 80603(b), 135 Stat. 429, 1340 (2021).

147. Goldberg, *supra* note 145; § 80603(b), 135 Stat. at 1340; *2023 IRS Cryptocurrency Reporting Requirements*, STRAUSS TROY (Mar. 10, 2022), https://www.strausstroy.com/articles/2023-irs-crypto-reporting/ [https://perma.cc/MAJ5-S59T].

148. *Tax Reporting in the Age of Cryptocurrency*, DELOITTE, https://www2.deloitte.com/us/en/pages/tax/articles/cryptocurrency-tax-reporting.html [https://perma.cc/KYJ6-RJWD] (last visited Mar. 13, 2024); Kevin Ainsworth, David Askew & Peter Kwon, *Infrastructure Investment and Jobs Act Contains New Cryptocurrency Reporting Requirements*, BDO USA (Jan. 5, 2022), https://www.bdo.com/insights/tax/infrastructure-investment-and-jobs-act-contains-new-cryptocurrency-reporting-requirements [https://perma.cc/K4GH-UFRV].

149. Press Release, Org. for Econ. Coop. & Dev., OECD Secretary-General Mathias Cormann Welcomes Pledge by 48 Countries to Implement Global Tax Transparency Standard for Crypto-Assets by 2027 (Oct. 11, 2023), https://www.oecd.org/tax/exchange-of-tax-information/secretary-general-mathias-cormann-welcomes-pledge-by-48-countries-to-implement-global-tax-transparency-standard-for-crypto-assets.htm.

150. *See* STRAUSS TROY, *supra* note 147.

ongoing attempt to replicate the accomplishments within the traditional financial market in the crypto market sheds light on how it might likewise be applied to the virtual economy in the Metaverse. In addition to the enhanced transparency, introducing tax policy to the Metaverse may generate more revenue, which can provide funding for regulatory programs to stabilize the economy.

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In sum, the uncertain and virtual nature of the Metaverse does not eliminate the argument that it should be taxed. Since much of the economic activity within this space falls under the Haig–Simons definition of income, and even resembles traditional sources of "real income," it is within the sovereign jurisdiction's right to impose such a tax. Allowing otherwise will only create stateless income and open up the Metaverse as a potential tax haven. Furthermore, taxation is perhaps the best tool to enforce information reporting and transparency, which will ultimately prevent tragedies such as the collapse of FTX. However, the conclusion that sovereigns ought to tax the Metaverse inevitably raises the more complicated questions of when and how to tax the Metaverse. Indeed, there are challenges in adapting the existing realization principle and identifying which jurisdiction has the right to tax economic activities within the Metaverse. The following Parts will introduce the various problems and provide possible solutions to encourage further conversation on this topic.

III. TAX BASE: WHAT TO TAX?

As illustrated in Section I.B, many activities in the Metaverse generate income. Users might earn prizes or rewards for winning various events, get a job earning compensation or a salary, or operate a business earning business profits. Still, others might create, gather, loot, or purchase virtual items of value and sell them for gains derived from property dealings.

The first task for subjecting such income to taxation is determining the tax base.[151] That is because the current system does not focus solely on gross receipts; instead, it looks to net income after deducting business expenses and capital expenditures.[152] Furthermore, current law exempts or defers taxation of certain income for various policy reasons.[153] This Part explores how to apply basic tax rules to income within the Metaverse.

A. EARNINGS AND PROFITS

Let us begin with categories of Metaverse income that more easily apply to the general income taxation rules. These include compensation, business profits,

151. Tax base is defined as "the total amount of income, property, assets, consumption, transactions, or other economic activity subject to taxation by a tax authority." *Tax Base*, TAX FOUND., https://taxfoundation.org/taxedu/glossary/tax-base/ [https://perma.cc/NR9N-8LUX] (last visited Mar. 13, 2024).

152. *See* IRC §§ 161–162; GRAETZ & ALSTOTT, *supra* note 28, at 77.

153. For example, current law does not tax imputed income and offers many exceptions for gifts and prizes. *See generally* GRAETZ & ALSTOTT, *supra* note 28, at 113–33.

interest, dividends, and other similar types of income whereby realization occurs upon receipt in the real world. This Article will refer to this group of income categories collectively as earnings and profits. The Sections below will discuss other income categories that involve an interval between receipt and realization.

General income tax rules apply to determine the tax base of earnings and profits within the Metaverse. Under these rules, the tax base is equal to the taxpayer's net income, which is gross income minus business expenses or costs.[154] Note also that personal expenses are not deductible,[155] whereas hobby expenses generally are deductible to the extent the hobby activity generates income.[156] When applying these rules to earnings and profits within the Metaverse, the form of payment does not affect the inclusion of such in gross income.[157] Hence, if a user receives virtual assets (e.g., game items) or cryptocurrency for compensation, the amount of income would be the fair market value of the transferred property.[158] Similarly, if a user receives the same virtual assets from operating a business in the Metaverse, the amount of taxable income would be the net profits after deducting business expenses or costs.[159]

Earnings and profits income within the Metaverse poses the least number of challenges. Nevertheless, the fact that such income is in the form of virtual assets or cryptocurrency raises two inevitable issues. The first is valuation. As discussed in Section II.A, any valuation of Metaverse income is shaky, given the volatility of digital assets. The second is liquidity. Taxpayers will inevitably face liquidity problems upon paying tax obligations if all their virtual income is in the form of assets, not cash. True, postponing the taxation of such income until the sale of these virtual assets for cash resolves both issues. Indeed, this type of cash-out event is already taxable under current law.[160] However, this Article tackles the more difficult question of taxing such income while it is within the Metaverse.

In-kind taxation can be a solution to the valuation and liquidity problems.[161] However, difficulties in valuation and liquidity are not unique to earnings and profits income. As discussed below, other categories of Metaverse income suffer from the same challenges in addition to problems stemming from the realization requirement. Thus, instead of recommending in-kind taxation for earnings and profits, this Article reserves Section IV.C to propose an alternative, more comprehensive solution to the various difficulties.

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154. *See* I.R.C. §§ 61, 161–162.

155. *Id.* § 262.

156. *See id.* § 183.

157. *See* Treas. Reg. § 1.61-2(a), (d).

158. *Id.* § 1.61-2(d).

159. *See* I.R.C. § 162.

160. *See Digital Assets*, IRS (Feb. 28, 2024), https://www.irs.gov/businesses/small-businesses-self-employed/digital-assets [https://perma.cc/DL54-8T79].

161. Taxing in-kind means any taxation that is paid with goods or services rather than money. *See* Jeremy Bearer-Friend, *Tax Without Cash*, 106 MINN. L. REV. 953, 957–58 (2021).

B. SELF-CREATED OR PRODUCED ASSETS

1. Imputed Income

Some metaverses allow users to create and improve digital assets.[162] For example, some virtual worlds allow gamers to complete tasks to fashion a weapon.[163] Additionally, a person might be able to create and customize an NFT.[164] Such activities are similar to producing goods or services for a trade or business (like baking cookies at a bakery) or generating imputed income (like baking cookies at home) in the real world.

In principle, self-created assets or merchandise for a trade or business are taxable. The timing of taxation of such is deferred until the assets are sold.[165] And such taxation would fall under the category of business profits discussed in Section III.A. On the other hand, if assets are self-created not for business, the accession to wealth therefrom is excluded from the tax base as imputed income.

Imputed income arises when people use their own property or own services to provide benefits to themselves.[166] Classic examples include painting a picture, cleaning your house, or harvesting apples from an apple tree in the backyard. Whenever a person performs services for one's own benefit or produces goods for one's own consumption, the person has an economic gain equal to the amount the person saves by not having to pay someone else to provide the services or goods. Those economic gains, or imputed income, are considered income under the Haig–Simons definition of income and *Glenshaw Glass*.[167]

Nonetheless, current law does not tax imputed income due to practical and political difficulties, including valuation and recordkeeping problems.[168] Lawrence Zelenak and Martin McMahon, Jr. explain that Congress has never considered it necessary to give explicit statutory authority to exclude imputed income.[169] Most governments and tax scholars have simply accepted that imputed income should not be taxed.[170] Indeed, such an exclusion makes intuitive sense since it is almost impossible to value imputed income.[171] Additionally, imputed income leaves no cash trail for the government to follow. Hence, current law defers taxation until the benefits are later realized (e.g., by selling the painting or harvested apples).[172]

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162. *See, e.g.*, Louis Chan & Simeon Woo, *Exploring the Metaverse: Creating Digital Assets*, HKTDC RSCH. (Nov. 9, 2022), https://research.hktdc.com/en/article/MTIxMTQ4MzMyOA [https://perma.cc/6RVX-7Z2V].

163. *See, e.g.*, Ashim, *How to Get Sickle, the New Melee Weapon, in COD Mobile*, SPORTSKEEDA (June 9, 2021, 3:18 PM), https://www.sportskeeda.com/esports/how-get-sickle-new-melee-weapon-cod-mobile [https://perma.cc/7DFT-5JJM].

164. *See* Greenspan, *supra* note 85.

165. *See, e.g.*, Treas. Reg. §§ 1.61-3, -4.

166. *See* GRAETZ & ALSTOTT, *supra* note 28, at 113.

167. *See id.* at 75–77, 113.

168. *See id.* at 113–14.

169. *See* Lawrence A. Zelenak & Martin J. McMahon, Jr., *Taxing Baseballs and Other Found Property*, 84 TAX NOTES 1299, 1308 (1999).

170. *See* GRAETZ & ALSTOTT, *supra* note 28, at 113–14.

171. *See id.*

172. *Id.* at 113. If a farmer consumes apples herself, the benefits are not realized for tax purposes and are never taxed.

Unfortunately, the failure to tax imputed income creates inequality and inefficiencies.[173] For example, by not taxing imputed income, the tax system favors those taxpayers who decide to stay home to take care of their children over those who work and send their children to daycare. The result is inefficient because it discourages individuals' decisions to work. It is also unfair because similarly situated taxpayers pay different taxes. The inequality is exacerbated when the labor supply of secondary earners and single parents, who are more likely to be women, is more responsive to tax rates than that of primary earners.[174]

Thus, the current policy of excluding imputed income may be revisited if there is a possibility to overturn the rationales. Indeed, the Metaverse turns these rationales on their heads. To be clear, this Article still sympathizes with the existing rationales of excluding imputed income as long as the imputed income involves benefits from self-*services*, because self-services would not accompany a subsequent transfer of the created value. However, self-created *property* in the Metaverse, such as NFT art, which could be excluded from the tax base as imputed income, should be included in the tax base because self-created property would be accompanied by a subsequent transfer of the created value. Furthermore, such virtual property should be taxed immediately because of the digital world's unique ability to monitor all activity.[175] While it would be impossible to administer and oversee the actions of every individual in the physical world, the virtual world allows gains from imputed income to be monitored and valued immediately.[176]

Table 1: Taxing Imputed Income

	Self-created property	**Self-created service**
Real world (current law)	Excluded from tax base; Tax upon subsequent transfer (realization)	Excluded from tax base
Metaverse (proposal)	Immediate taxation	Excluded from tax base

That said, current law requires realization when taxing gains derived from property, even if it is self-created. This Article's proposal to tax the self-created

173. *Id.*
174. *Id.* at 114.
175. *See 3 Benefits Technology Brings to Financial Reporting and Planning*, CPA PRAC. ADVISOR (July 2, 2019), https://www.cpapracticeadvisor.com/2019/07/02/3-benefits-technology-brings-to-financial-reporting-planning/34165/ [https://perma.cc/B858-7NV4] (discussing how automation and machine learning "can streamline tasks such as automated invoicing or allowing electronic payments"); Moiz Navsariwala, *What Is Blockchain Technology, and How Does It Work?*, SERVERMANIA (Aug. 23, 2022), https://blog.servermania.com/what-is-blockchain [https://perma.cc/ES53-Z4JE] (highlighting that blockchain technology is relevant in the digital world because it provides enhanced security, greater transparency, instant traceability, increased efficiency and speed, and automation capacity).
176. Navsariwala, *supra* note 175.

property immediately would abandon the realization requirement. Although substituting the realization requirement would be difficult, this Article will show how to overcome the realization requirement in the Metaverse in Sections IV.B and IV.C below.

2. Clarifying Creation in the Metaverse

Before wrapping up this Section, it is worthwhile to clarify what it means to create a digital asset. If a user can use a metaverse platform to create an entirely new or unique digital asset that previously did not exist, then that user created the digital asset. Thus, minting an NFT clearly constitutes creation. However, what if the user did not create something entirely new but instead made something already available to the user? That item may have been, in fact, "created" by the programmers—contained in the code of a metaverse platform and hidden from the users until certain events happen. For example, consider the game World of Warcraft (WoW). In WoW, a player can craft items using materials from their inventory.[177] A recipe for crafting "Grim-Veiled Spaulders" requires 45 "Shrouded Cloth," 10 "Orboreal Shards," and 15 "Enchanted Lightless Silk" (the crafting materials).[178] A player can craft Grim-Veiled Spaulders by consuming their crafting materials. If a player crafts Grim-Veiled Spaulders, did they create the Grim-Veiled Spaulders? If this action were examined by comparing it to the physical world, one might say the player created the Grim-Veiled Spaulders using their crafting materials. The player used resources to create a new asset, which may be considered imputed income.

However, consider this from the perspective of the digital world consisting of ones and zeros. The player entered a command to the game, gave up her digital assets, and gained a new digital asset. That description applies to another type of action, an exchange. This situation is indistinguishable from a purchase or an exchange. The above could have easily been requirements for purchase rather than crafting. For example, the player would purchase Grim-Veiled Spaulders and pay for it using their crafting materials. A metaverse platform can easily relabel this activity as an exchange or creation at a moment's notice. They can change the context and create animations to support either claim. Because a tax on the Metaverse should be consistent across platforms and not be easily manipulated by platforms, these two activities should be classified in a consistent nonmanipulable manner. Because the user is essentially exchanging resources and is not doing any significant actions besides confirming selections on a menu, this should be labeled as an exchange transaction which has its own tax treatment discussed in Section III.D in this Article.

177. *See Blacksmithing*, WOWPEDIA, https://wowpedia.fandom.com/wiki/Blacksmithing [https://perma.cc/HU7V-KBBN] (last visited Mar. 13, 2024).

178. *Grim-Veiled Spaulders*, WOWDB, https://www.wowdb.com/items/173247-grim-veiled-spaulders [https://perma.cc/Y5DL-5LWB] (last visited Apr. 1, 2024).

C. REWARDS

Imagine a player in the Metaverse randomly receives a reward called a loot drop for killing an enemy.[179] At the same time, remember that killing enemies is a typical goal of virtual games since survival is key.[180] If we were to then tax the players for receiving loot drops such as shields or bat companions, we would, essentially, be taxing them for playing the game. Sure, loot drops can be randomized and are not guaranteed, but they are programmed to happen at a given probability.[181] Therefore, it can be argued quite persuasively that they are a primary reason for playing the game. Much like a lottery that a player plays to win money, a gamer may be playing the game specifically for the loot that she will later sell.

As long as virtual rewards have economic value, they are accessions to wealth under *Glenshaw Glass* and considered taxable income. Note that the player may be involved in hobby activities. While some players may mainly view a video game like Minecraft as a lucrative activity, many others just play for the fun of it and collect loot for their own personal use in the game, or "not-for-profit" in tax terms. For such hobby activities, tax law limits the deductibility of expenses and losses but still imposes tax on income.[182] For instance, scrapbooking is a hobby that can only be taxed once a person makes money or net profits from it.[183] Keeping loot for oneself within the Minecraft world may not be any different from such hobby activities. In other words, receiving virtual rewards in the Metaverse should be subject to taxation.

The next question is, How should virtual rewards in the Metaverse be taxed? This depends on the characterization of the acquisition of the rewards. Loot drops in a game like Minecraft sound similar to prizes and rewards, which are reportable as gross income and immediately taxable under Section 74(a) of the Code.[184] Another view is to treat them as treasure troves which are also immediately taxable under Treasury Regulation Section 1.61-14.[185]

On the other hand, some may argue that taxation of virtual rewards should be deferred until a disposition occurs at an auction house or through a merchant so that the ability for Minecraft players to play without worrying about tax consequences is preserved.[186] And this tax deferral position seems fair, at least at first

179. *Loot Drop*, SLANG.NET (July 14, 2021), https://slang.net/meaning/loot_drop [https://perma.cc/4LTK-ATDE].

180. *See, e.g.*, Andrew Heaton, *Minecraft Player Beats the Game Without Technically Killing Any Mobs*, GAMERANT (Apr. 30, 2022), https://gamerant.com/minecraft-player-beats-game-no-killing/ [https://perma.cc/JC7U-H2K3] ("[I]t is necessary to kill certain creatures to progress [in *Minecraft*].").

181. Daniel Cook, *Loot Drop Best Practices*, GAME DEV. (Dec. 15, 2014), https://www.gamedeveloper.com/design/loot-drop-best-practices [https://perma.cc/DX9S-ZB9B].

182. I.R.C. § 183(a), (b); *see Tips for Taxpayers Who Make Money from a Hobby*, IRS (Dec. 19, 2023), https://www.irs.gov/newsroom/tips-for-taxpayers-who-make-money-from-a-hobby [https://perma.cc/V7TQ-26US].

183. *See* IRS, *supra* note 182.

184. I.R.C. § 74(a) ("[G]ross income includes amounts received as prizes and awards.").

185. Treas. Reg. § 1.61-14 ("Treasure trove, to the extent of its value in United States currency, constitutes gross income for the taxable year in which it is reduced to undisputed possession.").

186. *See* Lederman, *supra* note 34, at 1662–65.

blush, because although the Metaverse may enable us to tax virtual rewards immediately,[187] it seems unfair to tax players for their hobbies before their hobbies become business ventures.

That said, virtual rewards are an accession to wealth under *Glenshaw Glass* and, thus, clearly income. Is there a way to defer taxation of such income to a later disposition? To answer this question, a potentially better analogy may be the record-setting baseball that a fan randomly catches at a game.

The academic debate on how to tax the record-setting baseball catch demonstrates the agony of finding the proper tax rule for a specific scenario involving a treasure trove.[188] The IRS and some tax experts, including Andrew Appleby, argue that the "treasure trove" regulation, which automatically requires including the found property in gross income, applies to record-setting baseballs that are not immediately disclaimed.[189] Darren Heil explains that very few people sitting on a valuable asset consider that valuable asset a pure hobby. It is not too farfetched to imagine that, in the back of their minds, they know that they have an "ace" in their possession.[190] And if this is the case, it may not be fair that the government has to wait for the sale of that "ace" when it is perfectly capable of monitoring the gain and valuing its worth.[191]

187. *See infra* Sections IV.B–C.

188. The tax treatment of the "record-setting baseball" has been much discussed by scholars and the IRS. In the 1990s, the IRS made clear that if an audience member catches a valuable baseball at a game but disclaims it immediately, the audience member will not be taxed. *See* Dodge, *supra* note 41, at 724–25, 724 n.181. The IRS explained, however, that such an audience member is required to include the ball in their gross income under the treasure trove regulation if the person decides to keep the ball. *See id.* Shortly afterwards, Zelenak and McMahon challenged this approach. Zelenak & McMahon, Jr., *supra* note 169, at 1306. They thought that a record-setting baseball was best viewed as imputed income and, therefore, tax should be deferred until a disposition occurred. *See id.* Zelenak and McMahon focused on the cash base of our tax system, and concluded that deferred taxation for found property, other than cash, was not a threat to our system. *Id.* Dodge disagreed with Zelenak's and McMahon's analysis. Dodge distinguished between taken property and record-setting baseballs, while Zelenak and McMahon did not. Dodge, *supra* note 41, at 694–96. For context, examples of taken property are fish found by fishermen and minerals mined by miners. Such found property only gets taxed once a disposition occurs. Zelenak and McMahon argued that the treasure trove regulation did not distinguish between taken property that required effort and true windfalls like record-setting baseballs, Zelenak & McMahon, Jr., *supra* note 169, at 1302, while Dodge argued that there was an inherent difference because of the lack of effort involved in catching the baseball, Dodge, *supra* note 41, at 694–96.

189. *See* Andrew D. Appleby, *Ball Busters: How the IRS Should Tax Record-Setting Baseballs and Other Found Property Under the Treasure Trove Regulation*, 33 VT. L. REV. 43, 48–49 (2008); Dodge, *supra* note 41, at 724.

190. Darren Heil speaks to a similar point when he makes the argument that the IRS's decision to distinguish between the audience member who catches the record-setting baseball and keeps it and the audience member who immediately disclaims it is untenable. Darren Heil, Comment, *The Tax Implications of Catching Mark McGwire's 62nd Home Run Ball*, 52 TAX LAW. 871, 878–79 (1999). Heil suggests that the audience member who disclaims the ball is acting rationally because she knows that her returning of the ball will cause her to receive benefits, some even monetary. Overall, Heil argues that the IRS's conclusion that the taxpayer does not realize income when returning the ball makes no sense because the taxpayer only ever returns the ball because the gain without it is greater than the gain with it. *See id.*

191. This is the exact position that Kip Dellinger took on the record-setting baseball catch hypothetical. *See* Appleby, *supra* note 189, at 53 (quoting Dellinger's assertion that it would be "pure folly for the IRS to suggest that a fan catching the ball owes no tax immediately").

In contrast, Zelenak and McMahon compare baseballs to imputed income and conclude that tax on such baseballs should be deferred until the fans who catch them sell them.[192] Furthermore, tax scholars like Leandra Lederman and Adam Chodorow support tax deferral for loot drops.[193] Although Lederman argues that loot drops are not like imputed income or record-setting baseballs, she argues that loot drops are like what she refers to as "taken" property.[194] She compares the loot to the fisherman's fish, which is only taxed upon a disposition of the fish.[195] Chodorow, on the other hand, argues for no taxation on virtual income until it is cashed out because virtual income does "not increase a participant's ability to pay real-world taxes."[196] While Chodorow's position has merit, it does not account for the growing impact of the Metaverse and ignores solutions such as the ULTRA system, which will be discussed later in this Article.

Lederman's and Chodorow's pushes for tax deferral have benefits when we think about individuals who just want to play games for recreational purposes. That said, their rationales are based mainly on the difficulty of valuation and administration.[197] The government cannot monitor when the fisherman or the miner acquires fish or minerals or determine how much these acquisitions are worth. Actual valuation of fish or minerals will happen at a later disposition, so it would make sense to wait until then. Likewise, loot drops or virtual rewards function the same way. Or do they? Virtual loot is called loot because it has inherent value.[198] And unlike the baseball, fish, or minerals that we might struggle to value right away, the digitization of the Metaverse gives us the unique ability to monitor and value the loot. (More in-depth analysis of the valuation in the Metaverse will be discussed in Sections IV.B and IV.C.) So why wait for a later disposition or cashing out to occur? The government should be able to take advantage of this valuation and tax the recipient of the virtual rewards immediately, even if we deem the virtual rewards to be a true analogy to the record-setting baseball.

D. GAINS DERIVED FROM THE VIRTUAL ASSETS

If a gamer sells her shield for game money or exchanges the shield for another player's sword, does the gamer have income immediately included in the tax base? Clearly, if one of the items has a greater economic value than the other, one

192. Zelanak & McMahon, Jr., *supra* note 169, at 1300–01.

193. *See* Lederman, *supra* note 34, at 1659; Chodorow, *supra* note 34, at 741–42.

194. Lederman, *supra* note 34, at 1645–48 (reasoning that loot cannot be imputed income because it involves a third-party game publisher, nor is it analogous to a record-setting baseball since it requires significant effort).

195. *Id.* at 1647–48.

196. Chodorow, *supra* note 34, at 741 ("In contrast, worlds that permit participants to cash out should be considered open, and income earned in such worlds increases a participant's ability to pay real-world taxes and should be included in the tax base, again, unless some countervailing practical consideration exists.").

197. *See id.* at 740; Lederman, *supra* note 34, at 1660.

198. *See* Lederman, *supra* note 34, at 1628 ("Low-value items can often be found by exploring the environment, but higher value 'loot' is typically earned by killing a computer-generated character, such as a monster, which then drops its loot.").

of the players will have income—that is, "[g]ains derived from dealings in property" under Section 61(a)(3) of the Code—and such gains are generally immediately taxable because the income from them is realized and recognized under Section 1001 of the Code.[199]

Lederman agrees that such sales or exchanges are realization events under a paradigm where game items constitute "property"; however, many game developers argued that gamers did not own property in the game but instead had mere licenses to make limited use of the game developer's property under end-user license agreements.[200] Where a license paradigm applied, Lederman analogized gaming metaverses to cruise ships where customers enjoy the facilities and amenities of their temporary environment.[201] By contrast, in a virtual-property regime—where a gamer actually has ownership rights in copies of in-game items—Lederman argued that trades of such items are taxable under Section 1001 of the Code.[202]

In 2007, when Lederman made the cruise-ship analogy, the Metaverse was not what it is today. Although whether the users have a firmly established property right in the Metaverse is still debatable,[203] today we are beginning to imagine the possibility of the Metaverse existing as an independent world, not just as a mere supplement to the real world.[204] Therefore, the license paradigm is no longer enough of a rationale for omitting taxation in gaming metaverses.

This Article suggests that the Metaverse is currently morphing into a place where individuals or their avatars view themselves as having ownership rights in a novel ecosystem. The virtual assets at issue are not only game items like shields but also NFTs and cryptocurrencies that current law recognizes as property.[205] This means that we are dealing with a novel economic environment where sales or exchanges in games can and should be viewed as realization events and, thus, immediately taxable.

Lederman also uses a policy lens to argue that taxing loot drops and purely in-game sales or exchanges should remain off the table because such a tax would violate the principle of vertical equity, as it would impose more tax on people who have "more leisure time—given the demographics of game players, particularly students, the underemployed, and people between jobs—many of whom will thus have lower incomes than those with less time to spend in-game."[206]

199. I.R.C. §§ 61(a)(3), 1001(a)–(c).

200. Lederman, *supra* note 34, at 1653–55; *see also* Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047, 1063 (2005) (explaining that current law does not recognize property rights for virtual items).

201. Lederman, *supra* note 34, at 1654.

202. *Id.* at 1656.

203. *See* Fairfield, *supra* note 200, at 1063.

204. *Cf.* CHRISTENSEN & ROBINSON, *supra* note 4, at 44 ("[T]he metaverse . . . will likely displace some existing technologies and industries . . . .").

205. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 938.

206. Lederman, *supra* note 34, at 1658–59.

A response to this argument may be that serious gamers can now pursue careers as professional gamers.[207] Also, people are beginning to see the gaming world as more than a hobby when they choose to conduct their business ventures in the Metaverse.[208] Furthermore, even if those that game the most are unemployed and will be upset about such a tax, is such an outcome so problematic? Economists found that even as the economy is recovering from the financial crisis, an unusually large percentage of young people are choosing gaming over employment.[209] From a policy perspective, it may actually be useful to tax those who are addicted to games so that society will have a built-in deterrent to discourage them from choosing gaming over employment.[210]

The next, and potentially more complicated, question is whether unrealized appreciation in virtual assets in the Metaverse can also be included in the income tax base. When the value of an asset increases, current law taxes the accrued gains only when the asset is sold and the gains are realized.[211] The realization requirement is one of the most fundamental elements of the income tax system.[212] However, the realization requirement offers taxpayers the ability to manipulate their taxable gains derived from dealings in properties and, thus, results in many problems.[213] For example, taxpayers may choose to accelerate or defer gains or losses includable in gross income, which makes the realization requirement an inefficient tax policy. That the affluent are more likely to take advantage of the realization rules and the resulting tax deferral through tax planning proves that the rules are unfair.[214] As a result, an alternative tax method, such as mark-to-market taxation, which attempts to value assets at their fair market value and impose tax annually, can be used to calculate the current or real value of a company or individual's assets.[215] The main objective of the mark-to-market method is to provide a reliable and accurate picture of financial status and to tax annual fluctuations in wealth.[216]

Current law justifies the nontaxation of unrealized gains because it is difficult to value assets and pay tax prior to the receipt of cash.[217] Interestingly, these two

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207. *See How to Become a Professional Gamer: Live Your Childhood Dream!*, U. PEOPLE, https://www.uopeople.edu/blog/how-to-become-a-professional-gamer/ [https://perma.cc/JU8T-8RKL] (last visited Mar. 13, 2024).

208. *See supra* Section I.B.

209. *See, e.g.*, Ana Swanson, *Study Finds Young Men Are Playing Video Games Instead of Getting Jobs*, CHI. TRIB. (Sept. 23, 2016, 1:45 PM), https://www.chicagotribune.com/business/ct-video-games-jobs-emploment-20160923-story.html.

210. Similarly, sin taxes are used to deter overconsumption of unhealthy items, but are criticized as regressive because they are designed as an excise tax as opposed to an income tax that this Article proposes. *See, e.g.*, Hunt Allcott, Benjamin B. Lockwood & Dmitry Taubinsky, *Regressive Sin Taxes, with an Application to the Optimal Soda Tax*, 134 Q.J. ECON. 1557, 1558–59, 1559 n.2 (2019).

211. GRAETZ & ALSTOTT, *supra* note 28, at 144.

212. *Id.*

213. *Id.*

214. *See* Galle et al., *supra* note 32, at 1317.

215. TAX FOUND., *supra* note 52.

216. *Id.*; *see* Galle et al., *supra* note 32, at 1317–22.

217. GRAETZ & ALSTOTT, *supra* note 28, at 144.

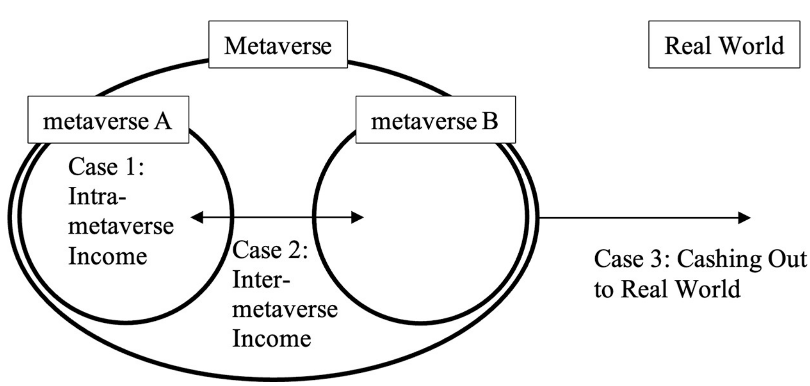
problems—valuation and liquidity—are also used to justify tax deferral for other categories of income in the Metaverse introduced in this Part. Any argument for deferring tax until the virtual assets are cashed out from the Metaverse would rely on the same rationales—that it is difficult to value the virtual assets and pay tax on them prior to the receipt of fiat cash.[218]

However, there may be a clear record and valuation of each of the virtual assets in the Metaverse. If so, any position for tax deferral for any Metaverse property is weakened, regardless of whether the income is received or realized. The position for tax deferral is further weakened if there is a way to address the liquidity issue, which will be discussed in Section IV.C. The unique nature of the Metaverse may allow tax administrations an opportunity to move away from the realization requirement. Therefore, this Article argues that assets or wealth in the Metaverse should be taxed immediately and not deferred until realization or further cashing out. The next Part of this Article focuses on this timing issue.

IV. TIMING: WHEN TO TAX?

Part III argued that the realization requirement could be lifted for transactions within a single metaverse, but some may also intuitively feel that the timing of taxation should depend on whether the receipt of income or the transaction in question occurred within the confines of one ecosystem or even one world. As we move from one ecosystem to another, and as we jump from the real world to the Metaverse and back, we have to ask whether the speeding up of the taxation timeline always makes sense. For this purpose, this Article offers three paradigm cases (see Figure 1 below): first, income generated in a single metaverse; second, income generated from a cross-metaverse transaction; and third, income or wealth generated upon exit from the Metaverse and entry into the real world.

Figure 1: Three Paradigm Cases



218. *See* Camp, *supra* note 34, at 747–48 (endorsing tax deferral until cash-out for income from electronic gaming).

It is likely that as the change of environment or setting becomes more distinct, the government will have a greater incentive to insist on immediate taxation. And the current law agrees with this last sentiment (or the third paradigm case), as it only taxes transactions that take a user or gamer from one world to another (meaning from the physical world to the virtual world and vice versa).[219] That said, this Part concludes by suggesting that even when realization is not deemed to occur, the Metaverse remains the perfect laboratory for experimentation for mark-to-market taxation systems, such as the ULTRA system proposed by Brian Galle, David Gamage, and Darien Shanske.[220]

A. THREE PARADIGM CASES

1. Income Within a Single Ecosystem

The first paradigm case would encompass income generated within a single metaverse. Most categories of income explained in Part III fall under this category. Consider the exchange of a sword for a shield in a metaverse. The law is uncomfortable with taxing gains from such an exchange because these weapons are usually considered worthless until they are exchanged for real-life items or fiat cash.[221] This is why the law prefers to wait until the virtual assets are cashed out of the game to tax the gain, allowing tax deferral.[222] The novel question that this Article asks is: Why allow for tax deferral in the Metaverse?

Because so many players within the Metaverse are enjoying economic benefits by accumulating virtual wealth and exchanging virtual items, it is a waste to let a player enjoy this tax deferral benefit, especially when the player can cash out at any time. This is where the ULTRA system can potentially step in. The basic idea behind the ULTRA system is for the government to take payments from the wealthy in the form of notional equity interests called ULTRAs.[223] This means that the government gets a percentage stake in the asset, so that when the asset goes up in value the amount of eventual tax goes up as well.[224] By introducing the ULTRA system into the Metaverse, the government will finally have a way to test mark-to-market taxation in a way that is not threatening but still illustrative of the true, not just theoretical, economic benefits and pitfalls of such a system of taxation.[225]

Some may still defend tax deferral for the first paradigm case. First, the nonrecognition rules may arguably apply to sale or exchange transactions in a single

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219. *See* I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 938.

220. *See* Galle et al., *supra* note 32, at 1264, 1314.

221. *See, e.g.*, Sheldon A. Evans, *Pandora's Loot Box*, 90 GEO. WASH. L. REV. 376, 396 (2022) ("This has become an issue of such economic import that even the [IRS] was forced to confront the issue, giving limited guidance on the taxation of virtual currencies, like Bitcoin, while declining to tax virtual currencies, like Fortnite's popular V-Bucks, because they cannot be exchanged for real-world money." (footnote omitted)).

222. *See id.*

223. Galle et al., *supra* note 32, at 1264.

224. *Id.* at 1265.

225. For an in-depth discussion on the ULTRA system in the Metaverse, see Section IV.C *infra*.

metaverse. The most similar real-world equivalent would be an exchange of personal property, which is a taxable recognition event.[226] However, if real property held for use in a trade or business or for investment is exchanged for real property "of a like kind," no gain or loss is recognized under Section 1031 of the Code.[227] The reason Section 1031 was implemented was because like-kind exchanges of real property are considered mere changes in form, not substance.[228] Additionally, by deferring tax recognition until sale, Section 1031 ensures that taxpayers are not taxed until they receive the cash necessary to value the asset and pay the tax.[229] However, none of the justifications for Section 1031 apply to the taxation of the Metaverse because virtual assets are not real property under current law. Also, the difficulty in valuation and liquidity is less convincing in the Metaverse, as examined in Sections IV.B and IV.C.

Second, some may argue that shield-for-sword exchanges within one metaverse should qualify for a safe-harbor exception of sorts because they are *de minimis*. This argument may hold some water for now because we still live in a world where the Metaverse is largely seen as a supplement to real life; however, this is subject to change. The IRS should publish guidance explaining that while it currently will not tax such transactions, it plans to do so once, for example, the number of American citizens generating a significant amount of income from the Metaverse hits a preselected threshold.

2. Exchanges Between Ecosystems

The second paradigm case would encompass exchanges between different metaverses: for example, a sword with one set of qualities from one metaverse for a sword with another set of qualities from another metaverse. Although this example may sound too complicated for current technology, it may not be so crazy to imagine a time in the future where users or gamers will be able to jump from a Microsoft-owned metaverse to a Meta-owned metaverse. In January 2022, Microsoft purchased Activision and acknowledged that gaming "will play a key role in the development of metaverse platforms."[230] Therefore, it is worth considering how cross-metaverse exchanges will work and whether they will trigger taxable events.

This Article argues that if it one day becomes possible for such exchanges to occur, these exchanges should be taxed immediately. In other words, complete tax deferral should not be an option because (1) taxation is administrable and (2) the individuals behind the exchanges have gains that they immediately enjoy

226. GRAETZ & ALSTOTT, *supra* note 28, at 615–16.

227. I.R.C. § 1031.

228. *See, e.g.*, Magneson v. Comm'r, 753 F.2d 1490, 1494–95 (9th Cir. 1985) ("[Taxpayers] exchanged their investment property for like-kind investment property which they continue[d] to hold for investment, albeit in a different form of ownership.").

229. GRAETZ & ALSTOTT, *supra* note 28, at 621.

230. Quarmby, *supra* note 60 (quoting Microsoft CEO and Chairman Satya Nadella); *see also id.* ("Microsoft is acquiring gaming giant Activision Blizzard for $69 billion as part of a move to ramp up its gaming and metaverse plans.").

precisely because they have exchanged their virtual property for *different* virtual property that leaves them in a different economic position.[231] Even if one is not persuaded by the argument that same-ecosystem exchanges, as in Paradigm Case 1 in Figure 1, cause economic positions to shift, inter-metaverse exchanges in Paradigm Case 2 in Figure 1 obviously demonstrate that the items being traded do have economic value outside their original settings and are thus immediately taxable.

We might even view such exchanges as transactions where the users constructively exit the Metaverse in order to re-enter it. And if this is the case, we are, essentially, jumping from one metaverse to constructive cash and, only after that, onto another metaverse. The example of cryptocurrency for a sword may be persuasive here because cryptocurrency for a virtual sword is intuitively easier to understand as being analogous to cash for a virtual sword. That said, exchanging cryptocurrency for a virtual sword and exchanging a virtual sword from one metaverse for a virtual sword from another metaverse cover the same distance. Both require one go from one metaverse to another. Both start and end in the Metaverse. However, how one views the interim trip from one metaverse to another is up for debate. If the exit is seen as an absolute exit, albeit a constructive one, from the Metaverse, then it should be taxable as discussed in Section IV.A.3 below. And if the exit is not seen as an absolute exit from the Metaverse, then one must admit that the Metaverse has become so well-developed that it functions independently of the physical world and does not need a reference point to function economically. This last argument also buys into the idea that the Metaverse is akin to the physical world, where general exchanges of currency for items are taxable. Furthermore, once it becomes clear that society sees such great economic value in the Metaverse,[232] the fact that the Metaverse has the ability to monitor all exchanges will be seen as a direct reason for insisting that we no longer completely ignore an individual's virtual gains until that individual exits the virtual world.

3. Cashing Out to the Real World

The third paradigm case is a total exit from the Metaverse where one exchanges any virtual assets or wealth for fiat cash. Such an exchange is a taxable

231. *See* Cottage Sav. Ass'n v. Comm'r, 499 U.S. 554 (1991) (holding that an exchange of property constitutes a "disposition of property" under I.R.C. § 1001(a) and is therefore realized if the properties exchanged are materially different); MILLER & MAINE, *supra* note 17, at 349 ("The basic rationale for most non-recognition provisions is that the taxpayer has not changed her overall economic position.").

232. *See, e.g.*, *The Metaverse: Blurring the Lines Between Our Physical and Virtual Worlds*, RICHARD VAN HOOIJDONK (Nov. 30, 2021), https://blog.richardvanhooijdonk.com/en/the-metaverse-blurring-the-lines-between-our-physical-and-virtual-worlds/ [https://perma.cc/3NE5-7MC5] (asserting that Fortnite is currently the best version of the Metaverse and highlighting its success as a worldwide sensation with more than 350 million registered players).

event under current law.[233] As recently as 2022, the IRS declared that any taxpayer who has disposed of any "digital asset" through a sale, exchange, gift, or transfer must report and later pay tax on the disposition.[234] The term "digital asset" includes NFTs.[235] Furthermore, anyone who receives "NFTs as compensation for services" or disposes "of any digital asset that they held for sale" will have to declare such receipts and dispositions as income.[236] This makes sense because the third paradigm case mirrors capital gains tax on assets like stocks, gold, and real estate.

We no longer live in a world where the IRS is oblivious to the potential gains that can come from virtual property.[237] Currently, "[e]xchanges between relevant crypto assets and fiat currencies, along with exchanges between one or more type of crypto and transfers of crypto (including retail payment transactions), will need to be reported."[238]

B. POLICY DEBATES ON REALIZATION

The law currently only imposes a tax on individuals when they cash out their virtual assets or wealth (Paradigm Case 3 in Figure 1).[239] Indeed, deferring the taxation of economic gains within the Metaverse until realization makes a certain

233. The following chart, from Gailey & Little, *supra* note 36, makes the current law very clear:

Examples of taxable crypto events	Examples of nontaxable crypto events
Selling cryptocurrency for fiat money (USD, EUR, JPY, etc.)	Buying cryptocurrency with fiat currency
Trading cryptocurrency for other cryptocurrency (e.g., trading Bitcoin for Ethereum)	Donating cryptocurrency to a tax-exempt organization
Using cryptocurrency to buy a good or service	Gifting cryptocurrency to anyone (if the gift is no more than $15,000)
Buying, selling, or trading an NFT	Transferring cryptocurrency from one wallet that you own to another wallet that you own
	Buying an NFT with fiat currency

234. Will McCurdy, *IRS 2022 Tax Guidelines to Treat NFTs as Stablecoins, Cryptocurrencies*, DECRYPT (Oct. 19, 2022), https://decrypt.co/112367/irs-2022-tax-guidelines-treat-nfts-stablecoins-cryptocurrencies [https://perma.cc/6XLZ-4GNN].

235. *Id.*

236. *Id.*

237. *See* Press Release, IRS, IRS Reminds Taxpayers They Must Check a Box on Form 1040, 1040-SR or 1040-NR on Virtual Currency Transactions for 2021 (Mar. 18, 2022), https://www.irs.gov/newsroom/irs-reminds-taxpayers-they-must-check-a-box-on-form-1040-1040-sr-or-1040-nr-on-virtual-currency-transactions-for-2021 [https://perma.cc/4WQ2-GX7N].

238. Camomile Shumba, *OECD Releases New Global Tax Reporting Framework for Crypto Assets*, COINDESK (Oct. 10, 2022, 12:25 PM), https://www.coindesk.com/policy/2022/10/10/oecd-releases-new-global-tax-reporting-framework-for-crypto-assets/ [https://perma.cc/M8RX-Q4RH].

239. *See* Gailey & Little, *supra* note 36; I.R.S. Notice 2014–21, 2014-16 I.R.B. 938, 938.

amount of sense under the existing mechanics of tax law, as taxing such items upon receipt raises valuation and liquidity issues. Nevertheless, this Article argues that assets or wealth in the Metaverse should be taxed immediately, thus capturing the situations described in Paradigm Cases 1 and 2 as well. More specifically, it argues that the unique nature of the Metaverse allows tax administrations an opportunity to move away from the realization requirement and its inefficiencies, inequalities, and administrative burdens.

There is a significant lack of scholarly literature debating the timing of Metaverse taxation. However, a similar conversation is going on in the cryptocurrency space involving block rewards. Block rewards are "rewards offered to validators of blockchain transactions in exchange for maintaining the public blockchain ledger."[240] It is reasonably clear that block rewards are taxable upon receipt under the current law because the IRS issued a clear statement on mining rewards in 2014.[241] Furthermore, many scholars confidently conclude that staking rewards satisfy the *Glenshaw Glass* income standard.[242] However, there is an ongoing dispute as to whether block rewards, which are the equivalent of crypto-to-crypto transactions, *should* be subject to taxation upon receipt or instead should not be taxed until realization.

Proponents for deferring the taxation of block rewards until realization in the real-world economy often point to four justifications. First, the volatile nature of cryptocurrency makes it challenging to determine whether crypto-to-crypto transactions reflect an actual change in economic wealth (i.e., valuation).[243] Second, taxing crypto-to-crypto transactions upon receipt will result in an undue administrative burden on taxpayers and the IRS, given their volatile nature and the relatively high frequency of such transactions.[244] Third, taxpayers may not have the liquidity necessary to pay such taxes.[245] Fourth, imposing taxation upon receipt might harm the innovation and development of the cryptocurrency industry.[246]

Nevertheless, such justifications have been critiqued persuasively. Advocates for taxing block rewards upon receipt point out that the law clearly requires taxpayers to include amounts received in income at fair market value *when received*

240. Marian, *supra* note 34, at 1493.

241. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 939 ("[W]hen a taxpayer successfully 'mines' virtual currency, the fair market value of the virtual currency as of the date of receipt is includible in gross income."). Mining involves using computational power to solve equations to mint new coins.

242. Comm'r v. Glenshaw Glass Co., 348 U.S. 426, 431 (1955). Staking involves investors holding cryptocurrency to stake in a transaction validation process for the blockchain. For scholarly discussion on taxing staking rewards, see, for example, Marian, *supra* note 34, at 1496–97; Avi-Yonah & Salaimi, *supra* note 34, at 28; and Henry Ordower, *Block Rewards, Carried Interests, and Other Valuation Quandaries*, 175 TAX NOTES FED. 1551, 1553 (2022) (arguing that block rewards should be included in income according to the rules on compensation income paid in-kind).

243. Avi-Yonah & Salaimi, *supra* note 34, at 37–38.

244. *Id.* at 32–33, 37.

245. *Id.* at 39.

246. *Id.* at 36.

and does not provide any exceptions for inflation or volatility.[247] Moreover, the administrative difficulties that accompany volatile assets frequently traded are not more burdensome than similar taxable transactions, such as day-trading or algorithm-based trading, and should not be subject to any special treatment.[248] Lastly, there is little evidence that the taxation of block rewards upon receipt "hampers innovative activity or even the mere adoption of cryptocurrency."[249]

Many parallels can be drawn between the taxation of block rewards and the Metaverse. First, similar to block rewards, it seems clear that Metaverse income should be taxable under existing law. As discussed above, economic activity within the Metaverse falls under the Haig–Simons definition of income and is, therefore, within the sovereign right to tax. The digital currency and property found within this Article's narrow definition of the Metaverse are likely to satisfy the definition of income under *Glenshaw Glass* or the Haig–Simons definition of income since they have economic value, are clearly realized, and are under the taxpayer's dominion. Second, it is fair to assume that the four justifications for waiting to tax block rewards until realization—namely, issues with valuation, liquidity, administrative difficulty, and hampering innovation—apply equally to the Metaverse, given its close relationship with cryptocurrency and other blockchain assets. Despite these difficulties, however, if there is a solid policy ground for taxing block rewards upon receipt, then there is for taxing the Metaverse too. The above similarity between the taxation of block rewards and the Metaverse supports the argument for taxation upon receipt for Metaverse income. The next Section will address each of these in turn.

C. MARK-TO-MARKET TAXATION IN THE METAVERSE

1. In Support of Mark-to-Market Taxation

Valuation poses one of the greatest obstacles to implementing a mark-to-market tax system,[250] and one might base an argument for tax deferral until realization for economic activity within the Metaverse on the fact that the volatile nature of digital assets makes virtual world transactions hard to value. In this vein, it is undeniable that the waxing and waning of the Metaverse's popularity has done little to standardize prices.[251] For example, limited competition in the Metaverse might force participants to buy digital assets at whatever price is set. Conversely, the price of a digital asset might suddenly drop if the relatively small pool of existing users finds a shiny new toy that has few interested buyers. Adding to the issue of volatility is the fact that cryptocurrency is often the conduit for economic activity within the Metaverse. One need only look at the cryptocurrency market's

247. Marian, *supra* note 34, at 1501, 1504.
248. *Id.* at 1504–05.
249. *Id.* at 1503.
250. *See* Galle at al., *supra* note 32, at 1261, 1317.
251. *See* Musadiq Bidar & Dan Patterson, *Virtual Land Rush Is Driving up the Cost of Space in the Metaverse*, CBS NEWS (May 6, 2022, 3:58 PM), https://www.cbsnews.com/news/metaverse-real-estate-companies-land-rush/ [https://perma.cc/XF5Z-NDWL].

70% devaluation (approximately $2 trillion loss) between 2021 and 2022 to see that digital assets are highly volatile.[252] Moreover, much of the digital currency within the Metaverse has limited use since it is specific to a virtual world. This makes it hard for prices to be normalized.

Nevertheless, this argument exaggerates the connection between volatility and valuation problems, suggesting that if there is one, there must be the other. Such a belief is simply not true. Despite the volatility of virtual assets, it is entirely possible to ascertain their value at a specific moment in time, particularly within the Metaverse. As mentioned above, in the context of block rewards, the law clearly requires taxpayers to report the fair market value of assets *when received*, regardless of the asset's volatility.[253] Since many of these virtual worlds likely utilize blockchain technology or some other type of digital ledger, it is theoretically simple to collect the pertinent information.

In truth, the volatility argument is less about valuation and more about fairness. Proponents might say that since a digital item's value can increase or decrease dramatically from minute to minute, it would not be fair for taxpayers to report gains in the morning when they experience losses that night. Would it not be fairer to take the average value for the year, or month, or day? While this Article acknowledges such unfairness, it also takes the position that such a risk is a socially accepted part of dealing with volatile assets. A plethora of volatile assets, such as stock, commodity, and cryptocurrency, lack any special treatment from the tax code, and there is no good policy reason to treat the Metaverse differently.

A stronger argument for why economic activities within the Metaverse are hard to value relates to the lack of a virtual-asset-to-cash exchange system or established secondary market. In such a situation, some may ask: How would one measure the gain resulting from a player exchanging a sword for a shield within the same virtual world? Although these items are likely assigned a value in the digital currency of that metaverse, the lack of any virtual-asset-to-cash exchange makes it difficult to convert any gain into taxable currency. And even if there is a secondary market for such items, the lack of participants might make it hard to ascertain the going market rate.

While such a position is more convincing than the volatility argument, it still falls short of justifying taxation upon realization. Recall that this Article narrows the definition of the Metaverse to include only virtual networks involving economic activity. Economic activity includes buying, selling, creating, or accumulating digital items with economic value. A digital item has economic value if it can be converted to or at least valued in a taxable currency such as cryptocurrencies or the U.S. dollar. Thus, many of the virtual worlds wherein such issues might arise fall outside the relevant definition of the Metaverse. Additionally, the economic future of the Metaverse likely hinges on the ability to convert digital gains into cash or cryptocurrency. Therefore, it is probable that this specific issue

252. Levy & Sigalos, *supra* note 15.
253. *See* Marian, *supra* note 34, at 1501, 1504.

will decrease over time as projects implement exchange systems to remain viable.

Nevertheless, this Article recognizes that there may still be situations where we might know something can be valued in a taxable currency, yet it is hard to identify that exact value. Such a problem is not unique to the Metaverse. Real-world examples include intellectual property rights or stakes in private businesses.[254] Furthermore, there might be an effective solution. As a preview, the ULTRA system that Section IV.C.2 introduces provides the ultimate solution to any remaining valuation problems. The ULTRA system operates by providing the government with a percentage stake in the taxed asset upon receipt rather than assigning a specific value. That interest tracks the taxpayer's internal rate of return such that, if the asset increases in value, so does the amount paid in taxes when the asset is sold. Thus, there is no need to determine the value upon receipt under the ULTRA system.

Let us next address the liquidity issue. Indeed, one can imagine a host of scenarios where Metaverse participants might earn taxable income but lack the required liquidity to pay such taxes. As an illustration, recall the hypothetical scenario where one player exchanges a sword for a shield within the same virtual world. Under a taxation-upon-receipt regime, the player would have to pay taxes on any economic gains from this trade. However, what would we expect him to pay with? Assuming this was his only source of income, the taxpayer would have to sell the shield for in-game currency and convert that into cash to pay the taxes. Again, the ULTRA system resolves this issue altogether. Although the government's notional interest in the asset ensures that the tax imposition does not stop, it still defers the actual tax payment until the asset is sold. Thus, taxpayers will have the cash to pay taxes.

Like the issues relating to valuation and liquidity, the administrative-burden justification falls flat. Similar to block rewards, digital assets within the Metaverse are highly volatile.[255] Additionally, transactions involving such assets occur frequently.[256] Thus, one might argue that taxing virtual income upon receipt will make it difficult for taxpayers to calculate and track their income and for the IRS to audit them. However, such an assertion is not a certainty. Referring to the high-profile case of *Jarrett v. United States* regarding the taxation of block rewards, Omri Marian points out that the taxpayers could calculate the exact amount of tax owed despite multiple transactions involving a volatile asset.[257] Furthermore, given the digital nature of the Metaverse, any administrative burden is likely to be overstated. These virtual worlds likely implement blockchain

254. *See* Galle at al., *supra* note 32, at 1261.

255. *See* ORG. FOR ECON. COOP. & DEV., TAXING VIRTUAL CURRENCIES: AN OVERVIEW OF TAX TREATMENTS AND EMERGING TAX POLICY ISSUES 22 (2020), https://www.oecd.org/tax/tax-policy/taxing-virtual-currencies-an-overview-of-tax-treatments-and-emerging-tax-policy-issues.pdf [https://perma.cc/HR38-ZNEC].

256. *See* Avi-Yonah & Salaimi, *supra* note 34, at 37–38.

257. Marian, *supra* note 34, at 1504 (discussing Jarrett v. United States, No. 21-cv-00419, 2022 WL 4793235 (M.D. Tenn. Sept. 30, 2022), *aff'd*, 79 F.4th 675 (6th Cir. 2023)).

technology or other digital ledgers that keep records of transactions.[258] As Marian said, "Taxpayers do not sit in front of their computer with a pencil and notebook; the receipts are documented electronically. Market values are known."[259] Moreover, even assuming some administrative burden, it is not more burdensome than similar taxable transactions, such as day-trading or algorithm-based trading.[260] Why should the Metaverse be treated any differently? Lastly, a realization regime is never without administrative burdens.

The last piece worth considering on this topic is the innovation justification. Advocates might take the position that the realization requirement promotes innovation in the Metaverse, whereas taxation upon receipt will hinder development. This Article dismisses this concern for two reasons. First, like block rewards, there is little to no evidence supporting such a claim.[261] Second, it is possible that a more stringent tax requirement will encourage innovation by stabilizing the market through greater transparency. Any regulatory policy must strike a balance to promote an environment where research and innovation can thrive.[262] Overly prohibitive regulations or policies can inadvertently hinder innovation,[263] while a laissez-faire approach opens the door to fraud and market instability.[264] As the dramatic collapse of FTX highlights, the current state of digital markets suggests the need for more stringent rules.

2. ULTRAs: A Method for Mark-to-Market Taxation

Though this Article encourages immediate or mark-to-market taxation of Metaverse income as much as possible, it understands that the current law only taxes transactions where individuals jump between the physical and virtual worlds.[265] It also acknowledges that the law changes and develops slowly. That said, the Metaverse is a perfect example of an environment where the rich can avoid paying taxes by owning assets that are volatile or difficult to value. Therefore, this Article suggests that lawmakers consider introducing the novel method that Brian Galle, David Gamage, and Darien Shanske proposed in their article *Solving the Valuation Challenge: The ULTRA Method for Taxing Extreme Wealth* into the Metaverse.[266] Because the Metaverse is in the early stages of designing its rules and regulations, the government, if it so chooses, can still implement a tax system that is closer to a mark-to-market tax system. In other words, the Metaverse, at least at this point in time, appears to be the perfect

258. *Id.* at 1494.

259. *Id.* at 1504.

260. *See id.* at 1504–05.

261. *See id.* at 1503.

262. *See* Pui Ki, *How Regulatory Frameworks Drive Technological Innovations*, ENTREPRENEUR (Nov. 30, 2020), https://www.entrepreneur.com/article/360111 [https://perma.cc/J79N-GTC3].

263. Tim Day, *When It Comes to Tech, It's Regulation vs. Innovation*, U.S. CHAMBER COM. (Aug. 18, 2017), https://www.uschamber.com/technology/when-it-comes-tech-it-s-regulation-vs-innovation [https://perma.cc/PZG8-VMF8].

264. *See* Ki, *supra* note 262.

265. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 938.

266. Galle et al., *supra* note 32.

laboratory for experimentation. Thus, a willingness to try new systems of taxation in the Metaverse would allow policymakers to learn more about the true or untrue benefits of our realization-based tax system. In this way, policymakers would also be able to suggest potential modifications for making our real-world tax system more efficient.

It is no secret that our income tax system is based on a realization approach, which avoids valuation problems but enables the rich to pay little in taxes.[267] To solve the valuation problem, Galle, Gamage, and Shanske propose a mark-to-market system called the Unliquidated Tax Reserve Accounts (ULTRA) method, where governments take payments from the rich by receiving notional equity interests.[268] However, because the interest the government receives is "notional," the government has no governance rights or minority-shareholder protections.[269] Most importantly, though, the ULTRA system does not require valuation and does not incentivize taxpayers who see above-market returns on investments to defer paying taxes.[270]

Many scholars who are bothered by the unfairness of our tax system may remain uncertain about the possibility of taxing accumulated wealth because of the valuation problem. While modern technology can help us value many types of assets, especially publicly traded securities, it is relatively useless when it comes to valuing complex private property that has been rarely transacted or realized.[271] Property in the Metaverse, such as NFTs and in-game items, usually falls into this last category because even if it is transacted in the Metaverse, the transaction is not considered a realization event. Therefore, applying the ULTRA system in the Metaverse is a good idea because it allows for taxation on such property due to the Metaverse's ability to track value.[272] The ULTRA method solves the valuation problem relatively elegantly, especially in an electronic system where, other than value, all data on an asset are easily recorded.[273]

While the ULTRA method seems like a typical "IOU" at first glance, it actually works far better than standard deferred-payment mechanisms because it does not incentivize tax deferral.[274] Instead, it gives the government "a percentage stake in a taxed asset."[275] Thus, if an asset goes up in value, the tax on that asset goes up by a proportional amount.[276] In other words, the government can use the ULTRA method to essentially charge a taxpayer an interest rate equivalent to that

267. *Id.* at 1317.

268. *Id.* at 1264.

269. *See id.* at 1264–65.

270. *See id.*

271. *See id.* at 1261. *See generally* Lederman, *supra* note 32.

272. For example, World of Warcraft shows the real-time value of an in-game item called "Hochenblume." Users bid on the item, enabling a would-be tax assessor to determine the value of a specific Hochenblume.

273. Marian, *supra* note 34, at 1494.

274. *See* Galle et al., *supra* note 32, at 1264–65.

275. *Id.* at 1265.

276. *See id.*

taxpayer's internal rate of return on her asset.[277] ULTRAs are also superior to in-kind payments because they entirely avoid the potential for corruption, which often springs from government ownership of private enterprises.[278]

Other solutions have previously been posed to the valuation problem. Galle, Gamage, and Shanske go through many of them and point out their flaws. For instance, governments can only tax assets that are easy to value.[279] While this idea has many benefits and can be applied in the Metaverse, it still incentivizes taxpayers to buy only assets that are not valued easily and are, therefore, not taxable before realization.[280]

Galle, Gamage, and Shanske also discuss the pros and cons of retrospective taxation and interest costs.[281] The biggest con with such a system is that as the future tax grows, the taxpayer will search for ways to make sure that it never becomes due.[282] This is called the "political optionality" problem.[283] And while a yield-based retrospective tax may avoid this problem,[284] it causes what its proponent, Stephen Land, calls the portfolio problem.[285] In general, there is too much of an administrability issue with such a tax.[286]

Additionally, Galle, Gamage, and Shanske explain that pure in-kind payments would be problematic economically and politically because it becomes constitutionally sticky to have governments act as shareholders of private businesses.[287] Lastly, they discuss the "separated accounts" approach and its current problems.[288] As it stands right now, the separated accounts approach incentivizes taxpayers to try to withdraw money without triggering tax via personal-level borrowing.[289] The ULTRA method can handle this problem by treating personal-level borrowing by taxpayers maintaining ULTRAs as a form of deemed distribution from the ULTRA.[290]

277. *See id.*

278. *See id.* at 1265–66.

279. *See id.* at 1268.

280. *See id.* at 1263, 1315.

281. *Id.* at 1284 ("[A] retrospective tax is just the standard realization rule but with an extra tax that amounts to an interest charge for the value of the deferred tax liability.").

282. *Id.* at 1284–85.

283. *Id.* Galle, Gamage, and Shanske mention that Professor Ari Glogower has proposed a retrospective system where the interest charge is relatively low and close to the risk-free rate. *Id.* at 1287 (citing Ari Glogower, *Taxing Capital Appreciation*, 70 TAX L. REV. 111 (2016)). Galle, Gamage, and Shanske also write that while Professor Glogower's approach is the most "politically viable," it is economically defensible to introduce a rate that is higher than the risk-free one. *Id.*

284. Tax practitioner Stephen Land's method assesses "how much an asset owner would save from tax deferral for any given asset, then upon sale charges the owner that exact savings amount." *Id.* at 1288–89 (citing Stephen B. Land, *Defeating Deferral: A Proposal for Retrospective Taxation*, 52 TAX L. REV. 45 (1996)).

285. *Id.* at 1289 ("[W]hen the government holds an equity interest or its equivalent in multiple taxpayer assets, the total tax on the assets is often smaller when those assets are combined into a single asset (e.g., by merging a bond and share of stock into a hybrid instrument).").

286. *Id.* at 1290.

287. *See id.* at 1291–92.

288. *Id.* at 1292.

289. *See id.* at 1296.

290. *Id.* at 1303.

3. Applying the ULTRA System to the Metaverse

In brief, Galle, Gamage, and Shanske argue that the ULTRA system is superior to all of the previously suggested solutions because it is a tweaked hybridized version of many of them.[291] They provide various examples of how their ULTRA system could work and focus on how such a system would avoid the valuation problem, keep governments out of private businesses, and disincentivize tax deferral.[292] This Article takes their reasoning one step further and applies it to assets and rewards in the Metaverse.

Galle, Gamage, and Shanske suggest that the ULTRA system need not become a universal valuation mechanism immediately or ever.[293] It can mainly be used in cases where tax valuation is impossible.[294] Again, a prime example of such a scenario is when we are dealing with assets and rewards in the Metaverse.

Galle, Gamage, and Shanske also suggest that the ULTRA method can be made voluntary or mandatory.[295] If voluntary, the ULTRA option would be offered alongside a take-it-or-leave-it alternative valuation regime.[296] Such a gamble is not unheard of in the tax arena.[297] It comes up with Code Section 83(b) elections for property payments, such as equity compensation subject to vesting, that have a "substantial risk of forfeiture."[298] Taxpayers can choose to wait to pay tax until their options vest, or they can pay when their options are granted based on their options' current value.[299] The same option can be offered to those who accrue wealth in the Metaverse. Such taxpayers can go along with the ULTRA method, or they can elect an alternative valuation regime which they promise not to challenge.

It is important to note that Galle, Gamage, and Shanske developed the ULTRA system while drafting a proposal for a comprehensive annual wealth tax reform for California.[300] In California, the ULTRA solution will likely only be used to plug valuation holes for assets and circumstances where public trading valuations and formulaic valuations do not suffice.[301] However, Galle, Gamage, and Shanske see broader applications for ULTRA.[302] They posit that the ULTRA

291. *See id.* at 1297.

292. *See id.* at 1298–309.

293. *See id.* at 1299.

294. *Id.*

295. *Id.* at 1305.

296. *Id.* at 1306.

297. *See id.* at 1307.

298. *See id.*; I.R.C. § 83(a)–(b).

299. *See* Galle et al., *supra* note 32, at 1307.

300. *Id.* at 1314. While the ULTRA system is frequently explained as a mark-to-market income tax method, it is often discussed in the context of wealth tax reform. This relates to a discussion of whether mark-to-market income taxation is mathematically or economically equivalent to periodic wealth taxation, and therefore can be an alternative to wealth taxation to circumvent U.S. constitutional challenges. *See* Thomas Brennan, Protean Capital Income Taxes, Presentation at the Spring 2023 Davis Polk & Wardwell Tax Policy Colloquium at Columbia Law School (March 28, 2023) (on file with author). However, this specific issue is irrelevant to this Article. This Article only uses the ULTRA proposal as a mark-to-market income tax method.

301. Galle et al., *supra* note 32, at 1316.

302. *See id.* at 1317–35.

system can solve the flaws of mark-to-market rules, replace the current gift-tax regime, aid with the administration of the property tax, reform the treatment of contributions, and help in various other ways.[303]

While the author of this Article would like to see the ULTRA method implemented in real life, the main goal of this Article is to encourage its use in the virtual economy. The implications of the ULTRA method for cryptocurrencies and the Metaverse are significant. Current law taxes income from cryptocurrency when it is realized and income from the Metaverse only when it is converted to cash.[304] An important rationale for this traditional realization requirement in the virtual economy is that valuation is hard when gamers and other members of the virtual world do not cash out of the virtual economy.[305] However, at the same time, it is inequitable to allow people to avoid taxation while they become rich through their holdings of cryptocurrency, assets, or rewards in the Metaverse. Therefore, this Article posits that the most effective way to tax economic activities that remain within the confines of the virtual economy, such as those within the Metaverse, is via the ULTRA method.

All that said, if the ULTRA method is rejected, the IRS should at least push for immediate taxation for the second paradigm case: exchanges that occur between metaverses (for example, an NFT for another virtual good). While it may seem convenient for the IRS to wait for individuals to cash out of the Metaverse, at some point, the IRS may have to admit that the Metaverse is no longer a supplement to the real world but an actual part of it. While society may not be there yet, some commentators expect that the future is likely to include the Metaverse as a part of almost everybody's everyday lives.[306] And while it may not take over everybody's lives, some people will definitely spend the majority of their time in the Metaverse.[307]

The question, therefore, is, To what extent will this takeover have to happen for the IRS to admit that the Metaverse is a world that has its own inherent value without regard to our physical world? And the follow-up question is, When will that be? There is no way to know whether the Metaverse will take over the majority of people's lives in ten, twenty, fifty, or one hundred years from now.[308] One thing, however, is almost certain: the Metaverse is the wave of the future. There is a reason that Facebook has recently chosen to rebrand as Meta and Microsoft has acquired Activision.[309] Older generations and individual lawmakers can try to

303. *Id.*

304. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, 938.

305. *See, e.g.*, Chodorow, *supra* note 34, at 697–98.

306. *See, e.g.*, Ghlionn & Hamilton, *supra* note 58 (predicting that "a large proportion of people will be in the [M]etaverse in some way" by 2030).

307. *See id.* (predicting that some "will live the majority of their waking hours 'jacked in'").

308. *See* ANDERSON & RAINIE, *supra* note 7, at 7–8.

309. *See* Wertenbroch, *supra* note 60 ("Mark Zuckerberg, founder of Facebook/Meta, has linked the new brand name to his strategic plan to create a metaverse — a virtual world in which consumers spend increasing parts of their lives, based on AI and virtual reality (VR) technology. This is an important new phase in the digital world."); Quarmby, *supra* note 60.

fight it, but if society continues on the path it is currently on, the Metaverse may prevail. And if it does, this Article's arguments for implementing the ULTRA method in the Metaverse will become even more relevant.

V. COMPLIANCE: HOW TO TAX?

When paying taxes on Metaverse income, taxpayers will first need to identify the right tax jurisdiction. This last statement seems simple, but it raises questions such as: Should the tax authority be based on the physical jurisdiction in which the taxpayer finds themself, or should it be based on the location of the server hosting the metaverse the taxpayer games in?

Even if the location of the server is considered a serious possibility for a tax nexus,[310] it should still be viewed as a mere proxy for the Metaverse, which has no physical location. In some ways, the Metaverse seems to be everywhere and nowhere all at once. Moreover, if the location of the server is not considered a proper nexus for sourcing income, the locations of the Metaverse platform companies may be a good and practical option instead.[311] Also, considering that these platforms create and run the new virtual world, their roles in tax compliance and administration may have to be strengthened. Therefore, it is worth considering introducing a withholding tax system for Metaverse income, by which the amount of tax is withheld by a third party, like one of the platforms, and paid to the government on behalf of a taxpayer.

The Metaverse raises novel issues when it comes to applying the current rules of source and residence taxation. Hence, this Part briefly addresses those issues in the hope of inspiring further study on the tax compliance issues in the Metaverse.

A. TAX JURISDICTIONS

There are two possible tax jurisdictions for Metaverse income: the source of income and the residence of taxpayers. There are ample policy discussions of which option is normatively better.[312] For example, some argue that the residence-based tax is more equitable because the final tax liability is calculated based on the individual's ability to pay tax.[313] However, taxpayers can manipulate their place of residence.[314] Some support the source-based taxation for global revenue distributional purposes, especially in international tax, because source countries are usually developing countries.[315]

310. *Cf.* Andrew Keane Woods, *Against Data Exceptionalism*, 68 STAN. L. REV. 729, 731–32 (2016) (showing that servers of a single company may be scattered around the world and that a jurisdictional dispute can still arise).

311. *See* Bland, *supra* note 57.

312. *See generally* Reuven S. Avi-Yonah, *Globalization, Tax Competition, and the Fiscal Crisis of the Welfare State*, 113 HARV. L. REV. 1573 (2000); Adam H. Rosenzweig, *Source as a Solution to Residence*, 17 FLA. TAX REV. 471 (2015).

313. Rosenzweig, *supra* note 312, at 477.

314. *See id.* at 495.

315. *See* Reuven Avi-Yonah & Young Ran (Christine) Kim, *Tax Harmony: The Promise and Pitfalls of the Global Minimum Tax*, 43 MICH. J. INT'L L. 505, 548 (2022).

Given the complexity of the debate, expressing a preference between source and residence taxation is beyond the scope of this Article. However, current income tax law follows the benefits principle, whereby active business income is subject to the primary tax jurisdiction of the source country and passive income, such as interest, royalties, and dividends, is subject to the primary tax jurisdiction of the residence country.[316] Metaverse income consists of both active and passive income and, thus, there is a case for choosing either tax jurisdiction. The remainder of this Section suggests how to apply the current rule to the Metaverse and the potential issues.

1. Source Taxation: Using the Server as a Proxy

As previously explained, the server may be a good proxy for the source of Metaverse income because the Metaverse, as experienced by its users, does not have actual coordinates on any map. But as human beings, we have the need to live with tangibles. Therefore, if we are set on pinpointing a location for the Metaverse, one option is to look to the locations of servers that house the ones and zeros behind the Metaverse's operability. But this argument for source taxation still has its own flaws even if it does feel appropriate to the more technically minded individuals among us. This is because "servers aren't tied to certain data centres so the tax jurisdiction could move."[317] That said, servers are not constantly moving. If anything, data centers are limited by the laws of physics more than the average person would assume, and, therefore, their locations are generally planned out in advance and are not easily subject to change.[318]

This means that if we were to accept the theory behind this form of source taxation, it most likely would be practicable to use the location of a server as an indicator for the relevant tax jurisdiction for any transaction within the Metaverse. Granted, Metaverse platforms could then manipulate server locations because the platforms would want to locate their servers in jurisdictions with the best tax rates.[319] Nevertheless, data takes time to travel, as current technology is limited by the speed of light. Also, because users of the Metaverse are tech savvy and sensitive to slow page load times, the potential manipulation of servers' locations may not be as much of a concern as some might predict.[320] At the end of the day, users of the Metaverse will most likely be willing to pay a little bit more in taxes if it means that the Metaverse will function gracefully and not constantly exhibit

316. *Id.* at 507 n.11.

317. Sal Visca, *The Metaverse: How to Tax Virtual Goods in the Real World*, TAXADVISER (Aug. 22, 2022), https://www.taxadvisermagazine.com/article/metaverse-how-tax-virtual-goods-real-world [https://perma.cc/Z963-FEJT].

318. *See* Darren Watkins, *How Important Is Location When Choosing a Data Center?*, DATA CTR. KNOWLEDGE (June 20, 2019), https://www.datacenterknowledge.com/industry-perspectives/how-important-location-when-choosing-data-center [https://perma.cc/HE65-4XSY] (explaining that choosing the location of a data center is a pointed process that requires the consideration of multiple factors).

319. *See, e.g.*, Wei Cui, *The Digital Services Tax: A Conceptual Defense*, 73 TAX L. REV. 69, 73, 86 (2019) (indicating that server location is highly mobile and can be placed in a low-tax jurisdiction).

320. *See* Watkins, *supra* note 318 ("Surveys consistently show that internet users are quick to drop sites with slow page load times – people want access to data instantaneously.").

problems like slowness and outages. Furthermore, from the user's perspective, the Metaverse has no physical location. And while this may not be true from a technical standpoint, it does reflect the user's experience. Thus, taxpayers using the Metaverse probably would not find it unfathomable or shocking if they were expected to pay taxes to a jurisdiction that they did not necessarily reside in.

However, if policymakers see the potential for servers to be moved as a true issue or if they feel that a server's location is just too arbitrary a way to designate jurisdiction, another option may be to assign the jurisdiction to the place where the metaverse platform's owner is based.[321] The argument here is that the owner is the true power behind the server, and therefore the location of the platform owner is less random.[322]

On the other hand, if a platform's owner is located in a hub, as most big companies are, then tax jurisdictions for the Metaverse will be limited to cities.[323] Alternatively, it could mean that big companies may suddenly be incentivized to leave big cities and, thereby, wreak havoc on the economies of those cities. Does it make sense to allow already-popular jurisdictions to hold total power over the taxation of the Metaverse unless big companies move? This is an open-ended question that this Article does not have an answer to. More information is needed regarding the tax rates and policies of the jurisdictions that would be involved. However, it is interesting to consider how tax law can serve as the driving force behind a company's decision regarding where to locate its headquarters.

2. Residence Taxation

For residence taxation, the tax authority is likely to rely on the users' or gamers' respective IP addresses. While this will work for the majority of people, it is an imperfect system because it is infamously easy for individuals to disguise their IP addresses.[324] This could pose a serious problem if certain jurisdictions have more favorable tax rates. In other words, it is not hard to imagine a world where users would manipulate their IP addresses using virtual private networks (VPNs) so that it would always seem as though they were located in jurisdictions that had the best tax rates. On a separate note, even if people are not consciously deceptive, the system will have to find a way to effectively track and then tax nomads and people with multiple residences. These are not insurmountable issues; however, they are worth recognizing from the outset. It must also be

321. Roxanne Bland likes this option more than that of the server's location. *See* Bland, *supra* note 57 ("Should the income be sourced to the jurisdiction where the platforms' servers are located or where the platforms' owners are physically located? Again, the second option carries greater logic.").

322. *See id.*

323. *See* Nick Routley, *The Biggest Tech Talent Hubs in the U.S. and Canada*, VISUAL CAPITALIST (Sept. 21, 2022), https://www.visualcapitalist.com/biggest-tech-talent-hubs-in-us-and-canada/ [https://perma.cc/847X-S7YC].

324. *See, e.g.*, Jennifer Daskal, *The Un-Territoriality of Data*, 125 YALE L.J. 326, 331 (2015); Ivan Belcic, *How Do I Hide My IP Address? 3 Easy Ways*, AVAST: ACAD. (Apr. 8, 2020), https://www.avast.com/c-hide-my-ip-address [https://perma.cc/WM5V-S4UR]; Paul Bischoff, *How to Hide Your IP Address (8 Ways, 6 Are Free)*, COMPARITECH (Mar. 12, 2024), https://www.comparitech.com/blog/vpn-privacy/hide-ip-address-free/ [https://perma.cc/XCF3-G8EF].

acknowledged that residence taxation has direct benefits too. It sets a bright-line rule based on the locations of people's homes, and home is a place that, by definition, almost all people are intimately familiar with.

B. ENFORCEMENT MECHANISM

After the proper method for determining the correct tax jurisdiction is selected, the next step to consider revolves around enforcement. Early discussion suggests that the payor of income arising from electronic gaming of $600 or more per year should report those payments to the IRS using Form 1099, and the payees should complete the tax payment by filing their tax returns.[325] Additionally, this reporting obligation is imposed only if the income is cashed out.[326]

However, this Article suggests a rule that departs from the realization or cash-out method. Rather, it recommends a broader tax base, including unrealized gains and income even if they remain in the Metaverse. This Article also suggests implementing the ULTRA method for mark-to-market taxation. Hence, assuming that this Article's proposal is accepted, this Article urges tax authorities to revisit the enforcement mechanism.

Regarding enforcement, two options are worth considering. The first and preferable option is to have the Metaverse's various platforms withhold the tax. Withholding by platforms means that the platform withholds income tax from the amount it sends its users and sends it directly to the IRS on their behalf. While taxpayers, employers, and, in this case, Metaverse platforms might dislike shouldering the responsibility of withholding taxes because of the extra workload it shoves upon them, withholding taxes is preferable to the tax administration.[327] This is because tax evasion and the margin for simple error is smaller when a withholding system is used.[328] More importantly, the Metaverse's platforms are aware of the economic activities occurring within their metaverses[329] and can generate taxable income values and the other information necessary for the ULTRA method to work. Therefore, it may be most effective for Metaverse platforms to initiate the tax compliance process through withholding.

And if the income is subject to source taxation, then all the withheld tax for all the players in the metaverse housed by the server or owned by the platform in question is simply paid directly to the source jurisdiction. In terms of compliance costs and administrative burdens, withholding matches well with source taxation.[330] Residence taxation, on the other hand, is much more complicated to

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325. Section 6041(a) of the Code requires all persons engaged in a trade or business making payment to another person of $600 or more in any taxable year to report those payments to the IRS. I.R.C. § 6041. Treasury Regulation 1.6041-1(a)(2) requires the reports be made on Form 1099. Treas. Reg. § 1.6041-1(a)(2); *see* Camp, *supra* note 34, at 688.

326. *See supra* Section IV.A.3.

327. *See, e.g.*, Kathleen DeLaney Thomas, *The Modern Case for Withholding*, 53 U.C. DAVIS L. REV. 81, 90, 94–97 (2019).

328. *See id.* at 97.

329. *See* Marian, *supra* note 34, at 1494.

330. *See* Thomas, *supra* note 327, at 87, 90–91, 93–94.

comply with. Residence taxation would require Metaverse platforms to send users tax information forms, hypothetically titled form W-4M,[331] so that the users could file their tax returns and request the refund of their withheld tax. In addition, residence taxation would require that the platforms pay the withheld taxes to multiple jurisdictions, resulting in significant compliance costs and administrative burdens. Still, residence-based taxation would work well in the sense that it would not add anything new to the regular process of filing tax returns, a process that most people are already familiar with. Metaverse users would just include the income listed on their 1099 forms or earned in the virtual world on their 1040 forms.[332]

CONCLUSION

Taxing the Metaverse is a conversation that is full of questions that tax policymakers have, for the most part, yet to answer. In the coming years, tax authorities will have to decide which types of virtual income should be taxed. They will also have to figure out when and how to tax such income. This Article argues for speeding up the taxation timeline for most forms of income generated in the Metaverse. It embraces the innovative ULTRA method and suggests that it be used to solve the valuation and liquidity problems inherent to virtual property. However, even if this is not possible, this Article encourages policymakers to at least make transactions between different metaverses immediately taxable, as it sees such transactions as exits from and reentries into the Metaverse.

Taxing Metaverse income will ensure that the richest among us cannot hide their wealth within the invisible webs of the Metaverse. It will allow tax authorities to test the consequences of taxing income immediately, which is now inevitably deferred due to administrative reasons. In other words, the Metaverse can be a laboratory for experimenting with modern tax policies. If combined with the ULTRA system, the Metaverse's ability to track everything that occurs within its folds will mean that tax deferral will no longer be a necessary evil. And once tax deferral is no longer a given, many basic tax equity issues could potentially disappear, at least in the Metaverse. The Metaverse has the potential to simulate scenarios that are unlikely to ever occur in the physical world. This leaves the Metaverse in a unique position that will help inform politicians, economists, philosophers, judges, and political scientists about human nature and the economics behind many aspects of human consumption.

That said, only time will tell how quickly society and tax authorities will actually come to accept that the Metaverse is more than a supplement to human life and worthy of complex tax systems and laws. In the same vein, we will have

331. For withholding taxation, existing tax forms include W-4P (Withholding Certificate for Periodic Pension or Annuity Payments) and W-4V (Voluntary Withholding Request). So, this Article suggests a new form titled W-4M (Withholding Certificate for the Metaverse Income) for Metaverse income.

332. On the other hand, source taxation may pose more compliance challenges than residence taxation does. This is because most users and gamers do not file their tax returns with the server's jurisdiction.

to wait to see how the IRS chooses to utilize the Metaverse's special ability to monitor virtual assets, income, and transactions. The potential is great for both the IRS and the Metaverse, and if our policymakers do not make sure to thoroughly educate themselves on the inner workings of the Metaverse, much tax avoidance and fraud may occur. Therefore, it is essential that policymakers become serious about following the constant developments within the Metaverse and applying new policy ideas, as proposed in this Article, to the space.