Virtual Economics Virtually Unregulated: How Clear Taxpayer Guidance Can Mitigate Tax Compliance Risks

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NOTE

VIRTUAL ECONOMIES VIRTUALLY UNREGULATED: HOW CLEAR TAXPAYER GUIDANCE CAN MITIGATE TAX COMPLIANCE RISKS

I. INTRODUCTION

With the national debt rapidly approaching $18 trillion, the need for the U.S. government to increase revenue has soared to new heights. In light of this fiscal crisis, the government has consistently sought ways to increase revenue through its taxing power by: increasing marginal tax brackets; implementing new taxes; and imposing additional reporting requirements to foster compliance. Despite these initiatives, the government has failed to provide clear and comprehensive guidance to taxpayers and practitioners regarding tax consequences arising from virtual economies and virtual currencies, multi-billion dollar industries, and growing sources of noncompliance with the existing tax code.

Virtual worlds provide a continuous and growing source of entertainment for individuals, primarily in the form of simulated interactions between characters in constantly changing environments.

7. See id. at 12-14.
Scripted virtual worlds provide social havens for players seeking to express themselves in contexts other than everyday life, enabling them to quest, raid, and band together with other players to achieve common goals.\(^9\) On the other hand, unscripted virtual worlds offer minimal guidance to participants, and instead, focus on merely providing a simulated world, leaving the level of interaction purely up to the individual.\(^10\) Regardless of which type of virtual world one chooses to engage in, barter transactions, exchanges, prizes, in-game windfalls, and sales of virtual goods for real currency may give rise to potential tax consequences.\(^11\)

Aside from the issue of virtual world transactions, stand-alone virtual currencies also present significant problems for regulatory authorities.\(^12\) It has been suggested that forms of virtual currency, such as Bitcoin,\(^13\) "[may] replace tax havens as the weapon-of-choice for tax-

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11. See id. at 290 (identifying a new issue of whether virtual income should affect one’s tax liability).

12. Laura Barnes, Bitcoin: Everything You Need to Know About the Virtual Currency, PC RETAIL (Oct. 24, 2013, 9:00 AM), http://www.pcr-online.biz/news/read/bitcoin-making-a-virtual-min/032266 (noting that the anonymity aspect of Bitcoin can increase the possibility of tax evasion).

evaders," further exacerbating the already difficult task of identifying and reporting taxable transactions from virtual worlds. In an effort to combat this type of activity, the government is actively issuing regulatory guidance to persons using, administering, or exchanging virtual currencies.

Although Congress is certainly aware of the problems involving the tax consequences arising from transactions within virtual worlds—and has been looking into the problem since at least 2006—little has actually been accomplished in terms of disseminating information to tax professionals and the taxpaying public. In May 2013, nearly seven years later, the Government Accountability Office ("GAO") issued a report to the U.S. Senate Committee on Finance, which concluded that the extent of tax noncompliance is unknown, and that the Internal Revenue Service ("IRS") "has not issued guidance specific to virtual currencies used outside of virtual economies." As such, the GAO recommended:

To mitigate the risk of noncompliance from virtual currencies, the Commissioner of Internal Revenue should find relatively low-cost ways to provide information to taxpayers, such as the web statement IRS developed on virtual economies, on the basic tax reporting requirements for transactions using virtual currencies developed and used outside virtual economies.

Looking at the above statement from the GAO, it becomes evident that the IRS must implement additional regulation and provide clearly articulated guidance if it intends to ascertain and reduce noncompliance. Since levels of voluntary compliance with the Internal Revenue Code ("IRC" or "Code") are, historically speaking, quite high,

15. See DEPT OF THE TREASURY FIN. CRIMES ENFORCEMENT NETWORK, FIN-2013-G001, APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES 1-2 (2013), available at www.fincen.gov (providing interpretive guidance to clarify the application of the Bank Secrecy Act to "persons creating, obtaining, distributing, exchanging, accepting, or transmitting virtual currencies").
16. See Ken Newquist, Reuters: US Congress Launches Probe into Virtual Economies, NUKETOWN (Oct. 18, 2006), http://www.nuketown.com/node/2104 (pointing out that the Joint Economic Committee is looking at the public policy questions raised by virtual economies, including taxes, barter exchanges, and acquisitions of wealth).
17. U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 12, 16.
18. Id. at 17.
19. Id.
it follows that providing more information to taxpayers is likely to lead to increased conformity.

This Note addresses the GAO report’s recommendation to the IRS by proffering solutions to disseminate information to taxpayers, increase regulation, and, thus, mitigate noncompliance. With this objective in mind, Part II provides the necessary background information about the different types of virtual worlds, closed versus open-flow virtual currency systems, how they operate, and the user experience for virtual world participants. Part III explores the specific tax issues surrounding virtual transactions, including: the difficulty in calculating basis; determining realization events; and determining how existing laws relate to these problems. Part IV evaluates previously offered solutions to problems in one or more of these specific areas, and then presents an alternative solution to mitigate tax noncompliance.

II. A BRIEF PRIMER ON VIRTUAL WORLDS AND VIRTUAL CURRENCY SYSTEMS

By the end of 2010, the total number of registered accounts for all virtual worlds exceeded one billion. In 2011, the revenue of the third party gaming service industry was estimated at $3 billion. In addition, the total value of Bitcoin, the most prominent virtual currency that exists independent of a virtual world, is estimated at $2.6 billion and growing,


21. See infra Part IV.B.

22. See infra Part II.

23. See infra Part III.

24. See infra Part IV.

25. See infra Part IV.B.1–3.


as of April 2013. Accordingly, the marketplace involving virtual world and currency transactions represents a significant opportunity for the IRS to capture tax dollars. Depending on the type of virtual world, the tax consequences may be quite different.

Virtual worlds may be generally categorized as either structured or unstructured. Structured virtual worlds are best known in the fantasy role-playing game context, where players are provided with structured game content, such as a set of objectives or quests; unstructured worlds take a minimalist approach and provide no such instructions. Unstructured worlds merely provide an interactive environment with no clearly defined objectives, allowing players to interact as they see fit. As such, the reason for playing each particular game depends on the nature of the game—whether it provides any set of objectives—and an individual’s subjective intent. For example, one person may play World of Warcraft, the most popular structured virtual world, primarily to enjoy the aesthetic and narrative qualities of the game, while another

29. See Using Virtual Currency Can Have Real World Tax Consequences, LAW OFF. JENNY C. LIN (July 30, 2013), http://www.jcllawoffice.com/using-virtual-currency-can-have-real-world-tax-consequences (discussing how “the general rules of taxation” make it clear that the examples provided by the GAO report may result in taxable income to the parties).
30. See Lederman, supra note 8, at 1658 (summarizing that different transactions should be taxed differently).
32. Lederman, supra note 8, at 1626-27; Arnold, supra note 9, at 190-92.
33. Chodorow, supra note 10, at 289.
34. See Arnold, supra note 9, at 191-92 (gaming allows players to develop their identities).
35. What Is World of Warcraft, WORLD WARCRAFT, http://us.battle.net/wow/en/game/guide (last visited Nov. 23, 2014) (“World of Warcraft is an online game where players from around the world assume the roles of heroic fantasy characters and explore a virtual world full of mystery, magic, and endless adventure.”). As the manufacturer of the game describes:

Essentially, the core gameplay of World of Warcraft revolves around fighting monsters and completing quests. You will encounter thousands of non-player characters (NPCs), computer-controlled characters who may need your help with tasks ranging from the mundane (such as delivering a letter) to the truly heroic (rescuing a dwarven princess from the evil Dark Iron Clan, for example). More often than not, these quests will put you right in harm’s way, and you’ll find yourself squaring off against deadly monsters. You will be able to deal with most monsters you encounter by yourself, but the true challenges and the big payoffs await in the world’s many dungeons and raids, which can only be conquered by groups of heroes working together as a team.

Id.
may play Second Life, the most popular unstructured world, with an eye toward accessions of virtual wealth.

A. Virtual Worlds

In order to identify several of the tax issues that arise in the virtual world context, it is first essential to understand what constitutes a virtual world, how such worlds operate, and the vast distinctions between them. Accordingly, Subpart A.1 discusses what a virtual world is, while Subpart A.2 delves into the major categorical archetypes that exist. Subsequently, this Note explores the potential ramifications of how virtual worlds are classified.

1. What Is a Virtual World?

Virtual worlds are simulated visual environments that allow users to interact with each other and characters in a persistent fantasy world from a first-person perspective on their computer. Users create avatars, which are visual representations of themselves as humans, animals, or another type of creature, depending on the parameters of the virtual world. Depending on the type and extent of the tasks or actions performed within the digital environment, the virtual world may be considered structured or unstructured.
Regardless of the type of virtual world, the acquisition of digital property or items within the game often represents a significant part of the overall user experience. Whether the objective is obtaining a magical sword to slay a fire-breathing dragon, or purchasing virtual real estate to host an elite social function, these accessions represent wealth, status, and power to the rest of the virtual world community. Many of these items may be "earned" by completing quests or tasks within the game, and others may simply be found by wandering the virtual landscape. Additionally, a defeated monster or creature may leave a powerful item behind, often referred to as a "drop." Depending on how the game is developed, characters may exchange these items with each other via an in-game auction house or through a simple negotiation. Furthermore, some game worlds facilitate the exchange of virtual items for real currency, while others expressly prohibit doing so through terms of service ("TOS") agreements. Naturally, the process by which one acquires or exchanges virtual property may give rise to a taxable consequence.

2. Types of Virtual Worlds

Virtual worlds typically fall into one of two categories: structured or unstructured. Although some scholars refer to these worlds as scripted or unscripted, the distinguishing characteristics are largely the
same regardless of the terminology used.\textsuperscript{51} The primary difference is that structured worlds limit the exploration of game play to a predetermined and specific set of circumstances, while unstructured worlds do not.\textsuperscript{52} In contrast, the vast majority of the environment in an unstructured world is completely created by world participants.\textsuperscript{53}

a. Structured Worlds

Structured worlds provide users with predetermined challenges and objectives, generally imposing limitations on what users can do with avatars.\textsuperscript{54} These worlds are best known in the context of Massively Multiplayer Online Role Playing Games ("MMORPGs"), the most popular of which is World of Warcraft.\textsuperscript{55} Through their avatars, players may interact with several non-playable characters that advance the storyline through textual dialogue, and provide players with quests and objectives.\textsuperscript{56} Once the player completes the requisite activities, the quest can be "turned in" for specific reward items, some of which may be transferrable to other characters.\textsuperscript{57}

The primary objective of scripted worlds is character advancement.\textsuperscript{58} Players use the tools and abilities that are given to them

\textsuperscript{51} Arnold, \textit{supra} note 9, at 190. Professor Leandra Lederman uses the terms "game worlds" and "unscripted worlds," instead of structured and unstructured. Lederman, \textit{supra} note 8, at 1628-30.

\textsuperscript{52} Beekman, \textit{supra} note 37, at 155-56.

\textsuperscript{53} Camp, \textit{supra} note 31, at 7; Chodorow, \textit{supra} note 10, at 289; David J. Mack, Comment, iTax: An Analysis of the Laws and Policies Behind the Taxation of Property Transactions in a Virtual World, \textit{60 Admin. L. Rev.} 749, 753 (2008) ("Individual users have created nearly all the objects in Second Life, from the clothing to the gardens and even the buildings themselves.").

\textsuperscript{54} Beekman, \textit{supra} note 37, at 156.

\textsuperscript{55} Lederman, \textit{supra} note 8, at 1626. By the end of 2013, World of Warcraft boasted a subscription base of 7.8 million paying members. Eddie Makuch, \textit{World of Warcraft Subscriptions on the Rise, Ended 2013 at 7.8 Million}, \textit{Gamespot} (Feb. 6, 2014), http://www.gamespot.com/articles/world-of-warcraft-subscriptions-on-the-rise-ended-2013-at-7-8-million-1100-6417575 (noting that World of Warcraft is still growing nine years after its initial release, although down from its peak of 12 million subscribers in 2010). Other popular MMORPGs include Runescape, League of Legends, Lineage 2, Guild Wars 2, and Aion. See \textit{The Top 10 MMORPGs of 2013 with Most Players World Wide!}, \textit{Badosoft Blog} (Jan. 31, 2013, 1:28 PM), http://www.badosoft.com/blog/top-10-most-played-mmorpgs.php (listing the MMORPGs with the most participants as of 2013).

\textsuperscript{56} Camp, \textit{supra} note 31, at 4.

\textsuperscript{57} \textit{Id.} at 4-5.

\textsuperscript{58} Arnold, \textit{supra} note 9, at 190. Although the manner of character advancement differs between games, players typically endeavor to achieve some kind of measurable progress with each play session. Christina Lauro, \textit{MMO Mechanics: Comparing Vertical and Horizontal Progression}, \textit{Massively} (Feb. 5, 2014, 4:00 PM), http://www.massively.joystiq.com/2014/02/05/mmo-mechanics-comparing-vertical-and-horizontal-progress (explaining the difference between vertical and horizontal progression). Vertical progression refers to the traditional grind of leveling and gearing characters, whereas horizontal progression focuses on developing a wide range of
when an avatar is created to navigate the world, gain experience, obtain equipment, and become stronger by bolstering a number of character attributes.\textsuperscript{59} As part of a structured world, MMORPG designers typically present enemies or obstacles that require collaborative efforts to defeat, often referred to as a raid.\textsuperscript{60} In addition to creating a challenging and heroic atmosphere, this is done largely as part of a subscription-based revenue scheme.\textsuperscript{61} Since players are often paying a monthly rate for additional content and updates, designers of persistent worlds generally control the pace at which a character can gain experience or increase in level.\textsuperscript{62} In turn, character levels and equipment serve to define the extent to which a character can participate in game content.\textsuperscript{63} The more powerful the avatar, the more game content is typically available to that player within the MMORPG world.\textsuperscript{64}

b. Unstructured Worlds

In sharp contrast, unstructured worlds allow users to explore the persistent world without a predefined set of objectives, and create an atmosphere of exploration and freedom.\textsuperscript{65} Similar to MMORPGs, though, users create avatars that enable them to explore and interact with the virtual world in a number of ways.\textsuperscript{66} One of the most popular and well-known unstructured worlds is Second Life,\textsuperscript{67} where players can

\begin{itemize}
  \item \textsuperscript{59}Arnold, supra note 9, at 190-91.
  \item \textsuperscript{60}Id. at 191-92.
  \item \textsuperscript{61}White, supra note 47, at 230; see also Lederman, supra note 8, at 1649 (explaining that users generally pay to participate in virtual worlds).
  \item \textsuperscript{62}Lederman, supra note 8, at 1649; cf. White, supra note 47, at 230 (discussing how players can obtain in-game currency or items). The rate of progression in an MMORPG is critical. Josh Bycer, Player Controlled Progression, Gamasutra (July 3, 2013, 2:00 PM), http://www.gamasutra.com/blogs/JoshBycer/20130703/195574/Player_Controlled_Progression.php. If an avatar’s power curve increases too slowly, players may find content repetitive and uninteresting. Id.
  \item \textsuperscript{63}See Lederman, supra note 8, at 1628.
  \item \textsuperscript{64}See id.
  \item \textsuperscript{65}Beekman, supra note 37, at 155-56.
  \item \textsuperscript{66}Arnold, supra note 9, at 192.
  \item \textsuperscript{67}Beekman, supra note 37, at 155; see also What Is Second Life?, SECOND LIFE, http://www.secondlife.com/whatis/?lang=en-US (last visited Nov. 23, 2014) (“Second Life is a 3D world where everyone you see is a real person and every place you visit is built by people just like you.”).
\end{itemize}
engage in a variety of activities from socializing with others to engaging in virtual real estate transactions.\(^{68}\)

Although character advancement is important in unstructured worlds, players do not create avatars for the purpose of battling monsters, gaining experience, or performing quest activities.\(^{69}\) Rather, the focus in Second Life and other unstructured worlds is primarily social, instead of fantasy-based.\(^{70}\) To facilitate this experience, the developer of Second Life has created an environment that resembles the real world and enables users to build virtual residences, establish career paths, attend concerts, and earn and spend its proprietary in-game currency.\(^{71}\) Interestingly, Second Life has allowed several mass media outlets and popular retail companies to establish an advertising presence within the world.\(^{72}\) Moreover, several countries have created in-game embassies to foster exchanges of information and promote tolerance; churches and other religious organizations are holding services within the game to accomplish the same objective.\(^{73}\) This further emphasizes the difference between task-oriented worlds and the laissez-faire attitude of unstructured virtual world designers.\(^{74}\)

**B. Virtual Currency**

Before tackling any tax compliance or regulatory challenges, it is necessary to understand how virtual currency operates as a medium of exchange, and whether such currency exists either independently or purely within the confines of an in-game world. Accordingly, Subpart B.1 discusses the controversial nature of independent virtual currency.\(^{75}\) Subpart B.2 focuses on the three categorical distinctions between virtual currency systems as identified by the GAO.\(^{76}\)

1. **What Is Virtual Currency?**

   Government regulations define real currency as “[t]he coin and paper money of the United States or of any other country that [1] is designated as legal tender and [2] that circulates and [3] is customarily

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\(^{68}\) Beekman, *supra* note 37, at 155.

\(^{69}\) Arnold, *supra* note 9, at 192; Schlimgen, *supra* note 47, at 879-80 (“[T]here are no missions to complete . . . [and] no script or storyline to follow in Second Life . . .”).

\(^{70}\) Arnold, *supra* note 9, at 192.

\(^{71}\) Id.; Schlimgen, *supra* note 47, at 880; see infra note 115.


\(^{73}\) Arnold, *supra* note 9, at 192-93.

\(^{74}\) See Lederman, *supra* note 8, at 1626-27.

\(^{75}\) See infra Part II.B.1.

\(^{76}\) See infra Part II.B.2.
used and accepted as a medium of exchange in the country of issuance.\textsuperscript{77} Although there is no legal definition of virtual currency,\textsuperscript{78} it is essentially a medium of exchange that lacks some characteristics of real currency, yet still operates like real currency in certain environments.\textsuperscript{79} Of particular importance is the fact that virtual currency lacks legal-tender-status in all jurisdictions.\textsuperscript{80}

The concept of virtual currency is quite controversial, in large part due to its anonymity and ability to avoid detection.\textsuperscript{81} Bitcoin, perhaps the most well-known and oft-mentioned example of virtual currency, was recently recognized by Germany as a financial instrument or private money.\textsuperscript{82} Like real currency, the value of Bitcoins fluctuate and can be purchased on the open market.\textsuperscript{83} As such, they can be used for tax and trading purposes within Germany.\textsuperscript{84} Moreover, several online retailers and physical merchants in the United Kingdom are now accepting Bitcoins.\textsuperscript{85} Thailand, however, has recently banned the purchase, sale, and use of Bitcoins, citing a “lack of existing applicable laws, capital controls and the fact that bitcoin straddles multiple financial facets.”\textsuperscript{86}

Bitcoins are created through a process called “mining,” in which an individual’s computer is used to complete difficult computational tasks, the reward for which is one Bitcoin.\textsuperscript{87} Developed in 2009 by Satoshi

\textsuperscript{77} 31 C.F.R. § 1010.100(m) (2012).
\textsuperscript{78} U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 3.
\textsuperscript{79} DEP’T OF THE TREASURY FIN. CRIMES ENFORCEMENT NETWORK, supra note 15, at 1.
\textsuperscript{80} Id.
\textsuperscript{83} See MT.GOX, BITCOINX (Apr. 11, 2014), http://bitcoinnx.io/exchanges/mtgox (“MtGox is the world’s most established Bitcoin exchange. You can quickly and securely trade Bitcoins with other people around the world with your local currency!”); see also Pricechart, BITCOIN CHARTS (Sept. 12, 2014, 3:24 PM), http://www.bitcoincharts.com/charts/mtgoxUSD#frg60ztgSzn1gl0zi0m2g25zv (displaying a graphical representation of the historical value and trading volume of Bitcoin); Simple Bitcoin Converter, PREEV, http://www.preev.com (last visited Nov. 23, 2014) (acting as a real-time Bitcoin to real currency conversion rate calculator).
\textsuperscript{84} Clinch, supra note 82.
\textsuperscript{85} Barnes, supra note 12.
\textsuperscript{86} Matt Clinch, Bitcoin Banned in Thailand, CNBC (July 30, 2013, 6:20 AM), http://www.cnbc.com/id/100923551.
\textsuperscript{87} See G.F., supra note 81. As The Economist explains:

[Bitcoin] relies on a cryptographic process that requires ever-increasing amounts of computational power to produce new units of the currency. The entire thing is based on public-key cryptography, in which a combination of a freely-available “public key” and a secret “private key” allow each owner to keep his funds secure while enabling payments that are irreversible. In the parlance, new [B]itcoins are “mined” by individuals and consortiums that use computers to rifle through an enormous
Nakamoto, the software used for its development has been openly published so that any developer can review or modify its code. There is no central regulatory authority, and payments come through a peer-to-peer payment network made through a “wallet application” on a smartphone or computer. Although the code and complete list of Bitcoin transactions are publicly available, the ownership of the Bitcoin keys, to which these transactions are linked, remains anonymous. Nevertheless, some remain skeptical about the true anonymity of Bitcoin transactions, and the Securities Exchange Commission has warned investors to remain vigilant about Ponzi schemes involving Bitcoins. Even if transactions are not completely anonymous, the complexity of Bitcoins and their relatively clandestine nature make investors an easy target for cyber-criminals due to the lack of existing regulation and oversight. In November 2013, Bitcoins were valued at over $1000—a far cry from their value of $2 in late 2011—but by February 2014, the value of Bitcoins plummeted to $350, causing many recent investors to incur substantial losses.

2. Virtual Currency Systems

Depending on how a virtual currency is used to facilitate transactions, it may fall within one of several types of virtual currency systems. For example, a retailer that accepts Bitcoins as payment for goods or services rendered simply accepts such currency as if it were a credit card or cash purchase. That vendor may then freely spend those Bitcoins with any other proprietor who accepts them as payment, or sell

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88. Barnes, supra note 12.
89. Id.
90. G.F., supra note 81.
92. See Beware of Bitcoin Related Ponzi Schemes, Says SEC, supra note 91.
93. Trugman, supra note 13; see Beware of Bitcoin Related Ponzi Schemes, Says SEC, supra note 91 (“Less regulatory oversight and supposed greater privacy of virtual currencies . . . could make virtual currencies more attractive to scammers . . . .”).
94. See infra Part II.B.2.a–c.
95. See Barnes, supra note 12.
them on the market to convert them into real currency.\footnote{96} However, virtual currencies that exist only within a digital world, and cannot be readily exchanged for real-world goods or services, fall somewhere within a spectrum of user flexibility that the government has classified as closed-flow,\footnote{97} hybrid,\footnote{98} and open-flow virtual currency systems.\footnote{99}

\subsection*{a. Closed-Flow Systems}

Most virtual worlds are classified as closed-flow systems.\footnote{100} In these economies, virtual currency can only be used to purchase goods or services within the digital world, and there is no interaction between U.S. dollars—or real-world goods and services—and the virtual world.\footnote{101} Trading in-game assets between players has no inherent value because they cannot be monetized or “cashed out” for dollars or any other government-backed currency.\footnote{102} It is, therefore, generally accepted that these types of transactions do not produce taxable consequences because there is no economic benefit.\footnote{103} Scholars have supported this assertion by arguing that players have a mere license to use the objects within a virtual world, thus not constituting those items as property.\footnote{104} Therefore, any dispositions of those objects do not constitute realization events that give rise to tax consequences.\footnote{105} However, the debate about whether players acquire property rights in digital items within virtual game worlds remains unresolved.\footnote{106}

\subsection*{b. Hybrid Systems}

Hybrid systems allow participants to use virtual currency to purchase virtual goods or services, and, in some instances, may allow the

\begin{footnotes}
\footnote{96. See id.}
\footnote{97. See infra Part II.B.2.a.}
\footnote{98. See infra Part II.B.2.b.}
\footnote{99. See infra Part II.B.2.c.}
\footnote{100. Chung, supra note 31, at 740.}
\footnote{101. U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 4; Moe Harrison, Virtual Currency 101, SNI COMPANIES (June 13, 2014), http://www.snicompanies.com/Blog/ArtMID/1105/ArticleID/49/Virtual-Currency-101 (“In simple terms, virtual currency is currency that exists in electronic form. It is not physical, such as paper money or coins.”).}
\footnote{102. U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 4.}
\footnote{103. Chung, supra note 31, at 747.}
\footnote{104. Zachery Jones, Why the IRS Has Not Taxed Income from Virtual World Transactions... Yet, 118 YALE L.J. POCKET PART 142, 143 (2009); Lederman, supra note 8, at 1634.}
\footnote{105. Jones, supra note 104, at 143; Lederman, supra note 8, at 1653-54.}
\footnote{106. See Jones, supra note 104, at 144 (pointing out that at least one court has already invalidated an arbitration clause in Second Life’s TOS agreement, finding it unconscionable).}
\end{footnotes}
conversion of real currency into virtual currency. However, the defining feature of the hybrid system is that one or more flows between real currency and virtual currency are closed. Users can purchase virtual currency with real currency, but cannot exchange virtual currency for real currency, or vice versa. This type of system can give rise to taxable transactions.

Third parties often capitalize on these types of systems, with many offering virtual currency for sale. While most TOS agreements between virtual world operators and players expressly prohibit these transactions, they nevertheless occur quite frequently. In the MMORPG context, "players may use virtual currency to buy new weapons, increase their avatar's abilities, or unlock new levels or gam[e]

108. Id.
109. Id.
110. See Using Virtual Currency Can Have Real World Tax Consequences, supra note 29. For example, the GAO report provides the following illustration in which Ann, a player of an online game, may have taxable income:

Ann plays an online game and amasses virtual tools that are valuable to her avatar. The online game does not allow users to directly exchange their virtual tools for U.S. dollars, but rather they can do so using a third-party... Ann uses a third-party exchange not affiliated with the online game to coordinate the transfer of her virtual tools to another player in exchange for U.S. dollars. The transfer is conducted by the third-party exchange and payment is mediated by a third-party payment network. Ann may have earned taxable income from the sale of these virtual tools.


options," thus explaining why players purchase in-game currency from outside vendors, and why hybrid systems are popular.\footnote{113}

c. Open-Flow Systems

In an open-flow system, virtual currency can be used to purchase real goods and services and other virtual currency, and can be readily exchanged for U.S. dollars.\footnote{114} Linden Dollars\footnote{115} is perhaps the best example of the open-flow system.\footnote{116} In Second Life, users have the ability to sell their Linden Dollars directly to other players through the LindeX exchange, which is facilitated by a third-party payment network.\footnote{117} As such, individuals are able to freely exchange real currency for virtual Linden Dollars, and vice versa.\footnote{118}

Bitcoin provides yet another great example of the open-flow system.\footnote{119} With the total current market value of Bitcoin estimated at approximately $2 billion, Bitcoin represents the most widely circulated virtual currency available.\footnote{120} The U.S. government has taken note of this fact, explaining in its report that “Bitcoins act as a real world currency in that users pay for real goods and services, such as coffee or web development services, with bitcoins as opposed to U.S. dollars or other government-issued currencies.”\footnote{121}

III. Tax Issues and Noncompliance Arising from Virtual World Transactions

This Part broadly addresses the tax issues associated with virtual world transactions, and the vast markets that virtual worlds represent as potential sources of revenue to the IRS.\footnote{122} Subpart A focuses on what is known about the current extent of noncompliance with the Code under its existing structure, and the overall size of the virtual marketplace.\footnote{123}
Subpart B introduces a recent GAO report, and discusses its findings regarding the purported causes of tax compliance risks involving virtual worlds. Finally, Subpart C addresses the current state of affairs regarding tax policy in this environment, including concerns about basis calculation, the debate over the acquisition of virtual property rights, and notions of equity.

A. The Extent of Noncompliance

The U.S. government is aware that transactions within virtual economies, or those involving virtual currency, may give rise to taxable consequences, but the extent of noncompliance remains largely unknown. This uncertainty is likely attributable to the complexity of the Code, differing opinions between tax professionals, limited reliable data, and a lack of clear guidance from the IRS. Nevertheless, with gamers spending over $2.9 billion on virtual goods in 2012, the value of Bitcoins in circulation is estimated at $2.6 billion, and the third-party gaming services industry valued at $3 billion, the IRS certainly has an interest in further investigating the extent of noncompliance.

Further exacerbating the noncompliance crisis, as the IRS has noted, the usage of Bitcoins and other virtual currencies is growing at an exponential rate. The usage of Bitcoins has increased an astounding 75% between July 2013 and December 2013, with an average of 3048 transactions occurring per hour, up from 1708 at the beginning of the same period. With over 10,000 businesses accepting Bitcoins, the majority of whose clients are located within the United States, the likelihood of noncompliance is growing. There are mounting concerns that digital currency may establish itself as a separate asset class, thus attracting the attention of investors looking to further diversify their portfolios.

124. See infra Part III.B.
125. See infra Part III.C.
126. U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 16.
127. Id. at 12-14.
129. Sayta, supra note 28.
130. Lehdonvirta, supra note 27.
133. Id.
134. Id.
135. Id. at 252; Lloyd Chin, Will Bitcoin Become an Investment Asset Class in 2014?, BITSSCAN (Feb. 7, 2014), http://www.bitscan.com/bitnews/item/will-bitcoin-become-an-investment-asset-class-in-2014 ("There are expectations that bitcoin could turn into an investment asset class in

http://scholarlycommons.law.hofstra.edu/hlr/vol43/iss1/11
B. The Government Accountability Office Report

In May 2013, the GAO issued a report to the U.S. Senate Finance Committee that described its findings with regard to virtual economies and currencies, ultimately concluding that the IRS should provide guidance to reduce tax compliance risks. Specifically, the report identified five tax compliance risks involving virtual economies and currencies: (1) lack of taxpayer knowledge regarding tax consequences; (2) uncertainty about how to characterize income; (3) uncertainty about how to calculate basis for gains; (4) challenges with third-party reporting requirements; and (5) the potential for using virtual economies and currencies as vehicles for tax evasion.

Some practitioners have corroborated the GAO’s analysis, but criticize its failure to address specific tax-related questions, such as when to recognize gains or losses, and how to determine cost basis. Understanding the risks that lead to noncompliance is an important first step in promulgating rules to mitigate the effects. However, what taxpayers really need are clear guidelines and examples to follow when it comes to transactions involving virtual worlds and currencies. Individuals and practitioners have been seeking direct, straightforward answers to questions regarding the calculation of their tax consequences for virtual world transactions for years, and the IRS has yet to provide significant guidance on this issue.

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136. U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 17. This sentiment was strongly echoed by the National Taxpayer Advocate in its recent Annual Report to Congress at the end of 2013. See NAT'L TAXPAYER ADVOC., supra note 132, at 254 (“It is the government’s responsibility to inform the public about the rules they are required to follow. The lack of clear answers to basic questions such as when and how taxpayer should report gains and losses on digital currency transactions probably encourages tax avoidance.”).

137. U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 12-14.


139. See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 1.

140. Cf id. at 12-13 (implying that clear guidelines are needed because taxpayers lack knowledge of the tax requirements regarding virtual transactions).

141. Julian Dibbell, Dragon Slayers or Tax Evaders?, LEGAL AFF., Jan.-Feb. 2006, at 47, 49. In fact, in its 2013 Annual Report to Congress, the National Taxpayer Advocate clearly acknowledged that “[t]axpayers want to know the tax consequences of digital currency transactions,” and many legitimate business owners, not wanting to be associated with criminals or tax evaders, have “urged the government to issue clear rules about the tax consequences of digital currency transactions.” NAT'L TAXPAYER ADVOC., supra note 132, at 252.
C. The Current State of Affairs

Despite significant scholarly work regarding the tax issues arising from transactions involving virtual worlds and currencies, the government has accomplished little over the past decade to provide any guidance to taxpayers. In 2004, an IRS agent responded to a taxpayer's questions regarding the tax consequences of virtual world transactions he engaged in by saying, "there are no regs, there is no code, there are no rulings, to rely upon." With the issuance of the GAO report in 2013, it is evident that the vast majority of issues plaguing both the taxpayers and the IRS in this context remain largely unchanged since 2004.

1. Policy Considerations

The policy arguments surrounding tax issues are abundant. As a policy matter, our tax system is fundamentally structured around a taxpayer's ability to pay taxes. The theory is that the more income a person acquires, the easier it is for that person to contribute to the costs of government. For this reason, the United States has adopted a

142. See, e.g., Beekman, supra note 37, at 163-65 (focusing on capital gains and ordinary income distinctions); Camp, supra note 31, at 44-69 (suggesting different theories for taxing virtual world transactions); Chodorow, supra note 10, at 313-25 (providing extensive analysis regarding the determination of cost basis in virtual worlds); Jones, supra note 104, at 145-46 (speculating as to why the IRS has not yet taxed virtual world transactions); Lederman, supra note 8, at 1658-59 (discussing general policy considerations and analyzing the nature of virtual worlds); Mack, supra note 53, at 758-60 (analyzing laws and policies behind the taxation of virtual world transactions); Eric G. Roscoe, Taxing Virtual Worlds: Can the IRS PWN You?, PGH. J. TECH. L. & POL’Y, Fall 2011, at 1, 8-13, 33 (summarizing the issues surrounding virtual property taxation and suggesting the imposition of an in-world tax day); Arnold, supra note 9, at 203 (explaining the extraordinary difficulties with tax enforcement in virtual worlds).

143. See NAT’L TAXPAYER ADVOC., supra note 132, at 255 ("The IRS has not explained how existing rules apply to digital currency transactions with enough specificity to allow taxpayers to be sure they are following them or for IRS employee to enforce them."); U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 15 (acknowledging that the IRS has not provided guidance on reporting requirements for virtual currencies used outside of virtual economies).

144. Dibbell, supra note 141, at 49 (describing the author's attempt to establish the tax consequences arising from his virtual world transactions and his conversation with IRS representatives).

145. U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 12-14 (outlining the five tax compliance risks); Dibbell, supra note 141, at 49 (pointing out the nearly identical issues observed by the GAO nine years later).

146. Roscoe, supra note 142, at 8-13.


148. Ability-To-Pay-Taxation, supra note 147; Rosen, supra note 147.
bracketed progressive tax system, in which individuals with higher annual income pay an increased share of the tax burden.\textsuperscript{149} Accordingly, it is generally preferred to impose taxes on those who clearly recognize gains, because they have the ability to pay, and permit tax deferral when the imposition of a tax would induce a person to sell property in order to pay the tax, because it would erode economic benefit.\textsuperscript{150} In essence, there are fundamental notions of fairness that come into play in determining whether the government should be able to force the liquidation of an asset merely because the asset increased in value.\textsuperscript{151} Moreover, requiring individuals to pay tax on the gain (or permitting a deduction for a decline in value) every year would create tremendous valuation issues that would overwhelm the tax system.\textsuperscript{152} These liquidity and valuation concerns provide a strong incentive to defer taxes until certain events trigger the recognition of gains, as codified in § 1001 of the IRC.\textsuperscript{153}

With regard to virtual property transactions, there is a strong normative argument that recognizing gains from the acquisition of property within the context of a game is fundamentally at odds with these underlying policies.\textsuperscript{154} If a person sells, exchanges, or earns goods within the game, resulting in economic benefit, but never recognizes those gains in the real world, it might not make sense to impose a tax.\textsuperscript{155}

\textsuperscript{149} Rosen, \textit{supra} note 147 ("There are currently six marginal income tax brackets and five federal filing statuses. The amount of tax you owe will depend on your filing status and how much taxable income you earn.").

\textsuperscript{150} Gerald E. Auten, \textit{Tax Topics: Capital Gains Taxation}, TAX POL'Y CTR., http://www.taxpolicycenter.org/taxtopics/encyclopedia/Capital-Gains-Taxation.cfim (last visited Nov. 23, 2014) ("Capital Gains are generally taxed only when 'realized' by sale or exchange, however, because estimating the values of many assets would be difficult, taxing income that had not been realized could be viewed as unfair, and paying taxes on accruals could force the liquidation of assets.").

\textsuperscript{151} See id. Forced liquidation of assets is a serious concern because a taxpayer may not have the financial means with which to pay the tax at the time the increase is assessed. See William D. Andrews, \textit{A Consumption-Type or Cash Flow Personal Income Tax}, 87 HARV. L. REV. 1113, 1143 (1974) ("Inclusion of unrealized appreciation in taxable income would create a tax liability without any corresponding immediate source of funds with which to pay the tax.").

\textsuperscript{152} Andrews, \textit{supra} note 151, at 1141 ("Comprehensive inclusion of unrealized appreciation in taxable income would entail enormous practical problems."). In order to assess the tax, property would need to be valued at the end of each taxable year and compared with its value from the previous period. \textit{Id}. Historically, valuation of property is not an issue that taxpayers have handled particularly well. \textit{Id}.


\textsuperscript{154} Camp, \textit{supra} note 31, at 61-66, 68-69 ("In-world transactions should not be taxed because they produce, at most, imputed income."); Lederman, \textit{supra} note 8, at 1670 ("There is a strong case from a policy perspective for not taxing in-game receipts and trades within game worlds, including sales within those games for virtual currency.").

\textsuperscript{155} Lederman, \textit{supra} note 8, at 1658. Professor Lederman would likely argue that these gains should not be taxed until realized. See \textit{id}. (concluding that merely exchanging and using items
On the other hand, unstructured worlds, such as Second Life, may provide the tools necessary to commoditize virtual worlds and facilitate exchanges of virtual currency into real money, and some have gone so far as to expressly state that participants retain the rights to their digital creations. This dichotomy between virtual worlds appears to be implicitly recognized in the GAO report within its definitions of closed-flow, open-flow, and hybrid virtual economic systems.

It is fairly intuitive that a person who earns a living through the sale of virtual property should be required to pay federal income tax on the profits. In that case, the analysis is somewhat simplified because such a person is directly participating in an event where economic benefit is realized, such as auctioning virtual property for real currency or exchanging virtual goods for physical goods and services. However, both the tax questions presented and the purported answers become muddled when an individual obtains virtual property by way of in-world labor, exchanges, and sales for virtual currency, but never recognizes the gains by “cashing-out.”

Professor Leandra Lederman has, quite persuasively, illustrated that the primary distinction between what she refers to as “game worlds” and “unscripted worlds” is the ability of the latter to more easily recognize gains because of their unstructured nature. Scripted game worlds tend to impose significant restrictions on a player’s ability to exchange virtual goods for real currency. Since operators of game worlds typically generate revenue through monthly subscription fees, they must continually generate new content or else players will seek entertainment within a game does not constitute a realization event). But see Camp, supra note 31, at 59-60 (arguing that in-game loot drops should be characterized as imputed income, instead of focusing on realization arguments).

156. Lederman, supra note 8, at 1627.
157. See U.S. Gov’t Accountability Office, supra note 6, at 4-5. Second Life’s unscripted nature, which openly permits and encourages the exchange of real currency and Linden Dollars, clearly falls within the GAO report’s classification of an open-flow system. See supra notes 115-18 and accompanying text. In contrast, games such as World of Warcraft and Guild Wars sufficiently prohibit real-money transactions, thus likening them to the GAO report’s hybrid classification. See supra text accompanying notes 107-08; infra notes 176-77 and accompanying text.

158. Lederman, supra note 8, at 1641.
159. See Comm’r of Internal Revenue v. Glenshaw Glass Co., 348 U.S. 426, 431 (1955) (demonstrating that “undeniable accessions to wealth, clearly realized” are to be taxed (emphasis added)).
160. See Lederman, supra note 8, at 1624 (suggesting that the common intuition that the accumulation of assets within a virtual world should not be taxed so long as the assets are not cashed out for real funds may be incorrect).
161. Id. at 1641.
elsewhere. The amount of content that players can experience in these games is directly proportional to their avatars' power levels, and in-game items enable characters to become more powerful. Thus, the unnatural acquisition of certain items within a game—such as purchasing them using real currency—may enable a player to avoid months of performing monotonous tasks and paying associated subscription fees, which provides a strong incentive for operators of game worlds to prohibit such transactions. In sharp contrast, unstructured worlds take a “hands off” approach to economic regulation, and may even facilitate the exchange of virtual goods for real currency.

Nevertheless, the overall picture is unclear as the debate continues regarding virtual property rights and whether to classify in-world property acquisitions as windfalls, self-created property, or imputed income, each of which may have different tax treatment. As the GAO recommends, new regulation would be helpful in providing guidance to taxpayers. When constructing a new tax scheme or applying it to a virtual world, Lederman argues that such a proposed provision “should be equitable, result in minimal deadweight loss, and be possible for the government to implement and enforce.”

2. Gross Income, Capital Gains Tax, and the Property Debate

Congress can arguably tax almost anything because the statutory definition of gross income is incredibly broad. As such, economic benefit can be realized in a variety of ways—including trading property

163. See Andrew Jankowich, EULAw: The Complex Web of Corporate Rule-Making in Virtual Worlds, 8 TUL. J. TECH. & INTELL. PROP. 1, 12 (2006); Lederman, supra note 8, at 1649.

164. See Lederman, supra note 8, at 160-91; see Arias, supra note 44, at 1315-16 (comparing virtual property to physical personal property).

165. See Lederman, supra note 8, at 1628-29 (explaining why game world players might spend money on virtual goods).

166. Lederman, supra note 8, at 1630; Mack, supra note 53, at 753-54.

167. See Lederman, supra note 8, at 1643-48 (discussing the possible tax consequences of windfalls and imputed income). Performing tasks for oneself that a taxpayer would otherwise have to pay for constitutes imputed income, and is not included in gross income. See Camp, supra note 31, at 37-38 (explaining that when “[p]eople routinely decide to cut their child’s hair, paint their own homes, change the oil in their car . . . there is no attempt to categorize the resulting increase in wealth from these self-benefiting activities as gross income”). However, it is still unclear as to whether loot drops fall within the imputed doctrine. See Lederman, supra note 8, at 1644-45 (disagreeing with Camp’s analysis and arguing that loot drops require the efforts of the game publisher in order for the taxpayer to receive them).

168. U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 17.

169. Lederman, supra note 8, at 1658.

for other property or services—and thus, be taxed.\textsuperscript{171} However, income must be clearly realized before it should be reported.\textsuperscript{172} It can be fairly deduced that an individual earning a living by equipping virtual characters with digital armor and selling them for cash meets the definition of "clearly realized."\textsuperscript{173} However, the question of realization becomes far more muddled when it involves the exchange of virtual assets for virtual assets in a world where the TOS agreement prohibits the sale of virtual goods for real currency.\textsuperscript{174}

Nevertheless, sales of virtual items are commonplace among participants, even where expressly prohibited, and represent what are probably the simplest examples of clearly realized income.\textsuperscript{175} These transactions, often referred to as Real Money Trades ("RMT(s)"), occur when two players agree to an exchange, the buyer pays the seller using real currency outside of the game, and the seller then transfers the sold item to the purchaser's avatar in the virtual world.\textsuperscript{176} Such transactions are contemplated by game designers, and, because of the threat that they pose to organic character development and natural game progression (acquiring powerful items without putting in the work undermines the effort of regular players), many expressly prohibit such transactions.\textsuperscript{177}

Therefore, both game developers and participants have a strong incentive to argue that property rights are not acquired in virtual goods, but for different reasons.\textsuperscript{178} The developers, by supporting this contention, are taking the position that players are paying for a mere

\textsuperscript{171} See G. Martin Bingisser, \textit{Federal Tax Consequences of Virtual World Transactions}, SHIDLER J.L. COM. & TECH., Fall 2008, at ¶ 1, 8; Arnold, supra note 9, at 209.

\textsuperscript{172} Glenshaw Glass Co., 348 U.S. at 431.

\textsuperscript{173} See Dibbell, supra note 141, at 48 (explaining that the author was earning an income from the sale of virtual goods in 2004 and paid taxes).

\textsuperscript{174} See Lederman, supra note 8, at 1634.


\textsuperscript{176} Chung, supra note 31, at 740.

\textsuperscript{177} Id. at 741-43. For example, prominently displayed on its website, Guild Wars states the following regarding RMTs:

It is our goal to provide an enjoyable experience to every Guild Wars player. That's why we take the topic of real-money trading (buying and selling gold or in-game items for real-world money) very seriously. Every week, we ban thousands of accounts used by real-money trading companies, because those companies harm the game for other players by running large networks of bots to farm gold and items, spamming chat channels with their advertisements, and even attempting to steal login credentials from unsuspecting players.


\textsuperscript{178} See Chung, supra note 31, at 741. Administrators are concerned with preventing RMT fraud, while many players are concerned about diluting the in-game experience. Id.
license to use the items within the game, and thus attempting to sell such items for real currency violates the TOS and licensing agreements. Banning players who abuse the TOS agreement protects the experience for other players, discourages cheating, and safeguards profitability. Players, on the other hand, would be well served by this argument because it eliminates the likelihood that barter exchanges of virtual goods will lead to taxable income.

The capital gains framework is used by the IRS to tax property, and the gain or loss is determined by comparing an asset’s selling price with its purchase price. Because this is the structure used for real-world property, it has been suggested that it is the best choice for taxing virtual property transactions, as well. However, whether individuals acquire property rights to virtual goods is still subject to significant debate. If virtual world participants assent to the TOS drafted by the operator to obtain a license to play, and such agreements are upheld by the courts, players may have no property rights in the virtual goods that they acquire. As Lederman astutely points out, “[r]edistributing possession among those with the usage rights is not a disposition of property,” and is not a realization event for federal income tax purposes. Other scholars have challenged the feasibility of this idea because the operators of virtual worlds would need to document an abundance of transactions. Simply put, requiring virtual world operators to collect and store transactional data would so severely burden them that it would effectively regulate them out of existence.

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179. Lederman, supra note 8, at 1634.
181. Bingisser, supra note 171, at ¶ 9. Gross income includes any “[g]ains derived from dealings in property.” 26 U.S.C. § 61(a)(3) (2012). Thus, if players are successful in arguing that they have an exclusive license to use virtual items, rather than acquiring property rights in them, exchanges of such items may not be taxable. Jones, supra note 104, at 143.
182. Arnold, supra note 9, at 208.
183. 26 U.S.C. § 1001(a) (2001); Arnold, supra note 9, at 208.
184. Arnold, supra note 9, at 208.
185. See Jones, supra note 104, at 143 (arguing that virtual goods are not property without the right to exclude them from others, and that virtual world TOS agreements deny such rights to participants). Since a virtual world operator can delete or modify the entire world on a whim, players have a mere license and no property rights. Id.
186. See id.
187. Lederman, supra note 8, at 1654.
188. See Mack, supra note 53, at 762; see also Arnold, supra note 9, at 210 (agreeing with the argument that implementing a capital gain tax in a virtual world would be infeasible).
189. See Arnold, supra note 9, at 212 (suggesting that overregulation would reduce profitability and make the business model unattractive to operators).
The basis problem is directly related to the capital gains issue because tracking basis is necessary for the calculation of any capital gains tax consequence. Basis is essentially the cost of property purchased, and exists to prevent taxpayers from being subject to double taxation. For example, purchasing a physical sword for $100 and selling it for $200 results in a taxable gain of $100, the same result as an investor purchasing Apple stock at $500 and selling it for $600. There are, however, significant differences between transactions that occur in virtual worlds and those that occur in the real world that make tracking an item’s cost basis difficult.

As mentioned previously, there is little doubt that the sale of a virtual item for real currency is a taxable exchange. However, determining the amount of tax payable depends on the item’s cost basis, and tracking basis can become complicated, since most virtual worlds employ their own proprietary currency that may or may not be exchanged into real currency. Referring to the classifications from the GAO report, this scenario typically incorporates hybrid or open virtual currency systems because real currency is being used on both ends of the transaction. That is, in-game currency is purchased for real dollars, items are sold for real currency, or both. Although the hybrid system has, by its very definition, at least one of the avenues of exchanges closed off, clandestine RMTs often occur outside of the virtual world that effectively morph it into an open system for transactional purposes.

Consider, for example, the following hypothetical illustration to demonstrate the complexity of a scenario in which questions regarding basis may need to be resolved. In a hybrid system, Charlie purchases...
100 platinum coins from a third-party vendor for $4.90, in direct violation of the virtual world's TOS agreement. He then purchases a hypothetical Sword of Chivalry for 85 platinum coins from an in-game vendor, equips it, and engages in a series of quests in which Charlie receives a reward of 80 platinum coins for his efforts. Later that day, Charlie stumbles across an ancient shield while roaming the landscape, and trades it to another player for another Sword of Chivalry, which he believes to be worth significantly more. Having no use for duplicate items, Charlie sells one of the Swords of Chivalry for 90 platinum coins and, in turn, sells the coins to his friend John for $4.90, since the fair market value for platinum coins has increased.

This scenario creates a whole host of issues regarding basis, the majority of which are beyond the scope of this Note. However, the illustration represents some of the challenges facing taxpayers and tax practitioners for which the IRS should provide guidance. The minimal information that has been provided to taxpayers lacks the requisite specificity to be particularly useful to taxpayers or IRS employees.

IV. A NEW APPROACH TO DISSEMINATING INFORMATION TO TAXPAYERS

Scholars have largely focused on tackling the numerous substantive tax issues plaguing virtual worlds—such as when to impose a tax, what type of tax to implement, and how to calculate basis—rather than offering practical ways to disseminate information to taxpayers and tax professionals about the IRC and its implications on virtual world transactions. This Part begins by briefly analyzing previously suggested solutions, and then introduces a new, multi-tiered approach to

200. See id. at 288-89 (explaining that game developers generally retain all property rights in virtual goods and ban players who violate the terms).
201. See id. at 289 (describing the practice of obtaining virtual goods and then selling them to other players that chose not to acquire the virtual wealth and experience on their own).
202. See Roscoe, supra note 142, at 3 (noting that players can often participate in battles or quests to receive virtual rewards, including currency).
203. See id. Assuming that players acquired at least some property rights in their virtual goods, this would be considered a barter exchange, and the fair market value of the shield would be includible in Charlie's gross income. See 26 U.S.C. § 61(a)(3) (2012).
204. See Chodorow, supra note 10, at 317. This part of the hypothetical illustrates the issue of determining which coins are actually being sold, the ones he earned from questing or the ones he received from selling the extra sword he traded for. See id.
205. Id. at 318 (discussing the problems of tracing basis for virtual transactions).
206. See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 13 (identifying that taxpayer uncertainty over how to calculate basis is a major cause of noncompliance).
207. See NAT'L TAXPAYER ADVOC., supra note 132, at 255.
208. See infra Part IV.A.
reducing tax noncompliance in the context of virtual economies. Critically evaluating the challenges associated with various proposals offers significant insight into why the IRS has not yet developed its own solution.

A. Previously Proffered Solutions

As mentioned, authors have previously focused on providing solutions for specific tax questions, such as calculating basis in virtual spaces or dealing with the insurmountable issue of requiring virtual world operators to track billions of transactions. Although these pieces tend to focus on substantive issues rather than the communication of information to taxpayers, analyzing their arguments provides critical insight into the challenges faced by the IRS and virtual world operators.

1. Implementing a Sales-and-Use Tax Structure

It has been suggested that the most obvious solution is to tax virtual property transactions through the capital gains framework, but that doing so would create “a slew of evaluation issues that do not exist in the real world.” Although technically the correct way to calculate the tax consequence arising from the sale of virtual property, it is noted that it would be inefficient and would unduly burden operators of virtual worlds. In order to accurately determine basis, and thereby the tax consequence upon disposition of a virtual item, the burden of logging an extraordinary amount of transactions would have to be imposed on virtual world operators. Accordingly, the IRS might find itself in a tricky situation, where implementing significant regulations makes virtual world transactions less attractive, and therefore leads to increased compliance, but an overall decrease in tax revenue collected. Instead, a sales-and-use tax is proposed, which would eliminate reporting requirements and remit a percentage of every in-game transaction directly to the IRS.

209. See infra Part IV.A--B.
210. See supra notes 208-09.
211. See, e.g., infra Part IV.A.1 (summarizing the conclusion that the obvious solution involving the capital gains framework leads to valuation issues).
212. Mack, supra note 53, at 762.
213. Id.
214. Id. at 762-63.
215. Id. at 762.
216. Arnold, supra note 9, at 212.
218. Id. at 763-64.
It has been pointed out that the sales-and-use tax structure suffers from the same valuation issues that plague the capital-gains framework. In other words, determining the fair market value of the virtual currency being exchanged in a transaction is a prerequisite to determining the amount being withheld—even if it is only a percentage—and is extraordinarily difficult. If a sales-and-use tax of 3% is imposed on a transaction involving 1000 platinum coins, the value of 30 platinum coins must be known in order to determine an exact dollar amount to be remitted to the IRS. A way around this problem is to actually transfer the 30 platinum coins directly to the IRS. However, it would then require the IRS to convert them back into real currency in a separate transaction. This would become an administrative nightmare, as the exchange rate of the coins might be in a constant state of flux. Even assuming this works for open-flow systems where the market value of virtual currency is known, such as Linden Dollars, it is hardly feasible for hybrid and closed-flow system transactions, where the fair market value of the currency is largely unknown and fluctuates daily.

2. The In-Game Tax Day

Interestingly, Eric Roscoe proposes a creative solution in which operators of virtual worlds impose an in-game tax day. However, it is certainly debatable that “the IRS could easily incentivize the payment of taxes in Second Life” by giving the player a unique digital item. Since participants of unscripted worlds generally play for social interaction or entertainment, the purported in-game item to be given must have some perceived value if it is to induce any type of behavior. If everyone that pays taxes is given a unique item, then there is essentially nothing unique about it. With that being the case, there is likely insufficient

219. Arnold, supra note 9, at 210-11.
220. Id. at 211 ("It is extremely difficult to determine a fair market value for virtual items based on the instability and fluctuations of virtual markets.").
221. See Roscoe, supra note 142, at 9 (discussing how determining fair market value is a question of fact, and can be quite difficult).
222. Mack, supra note 53, at 763-64.
223. See id. at 764.
224. Arnold, supra note 9, at 211.
225. Chung, supra note 31, at 760.
226. Roscoe, supra note 142, at 33.
227. Id.
228. See Lederman, supra note 8, at 1630.
230. See Matt Johnson, Economic Basics: Supply and Demand, SOPHIA LEARNING,
social or economic value associated with the item to offset the costs of paying in-world taxes.\textsuperscript{231}

In the context of game worlds, players usually assign the greatest value to items that enable their avatars to become more powerful and, in turn, allow them to experience additional content.\textsuperscript{232} Providing exclusive in-game items for such a tax day is at odds with the desire of game developers to prohibit access to virtual items that are disproportionate in power level to the difficulty in obtaining them.\textsuperscript{233} As previously mentioned, the success of game developers’ subscription-based revenue models rests with the needs of players to experience maximum game content.\textsuperscript{234} If the digital item provided is too powerful, it may undermine the ability of the developer to control the pace of character advancement.\textsuperscript{235} However, if the item is not potent enough, it is likely to provide little incentive, if any, for a player to dispose of hard-earned virtual assets to pay taxes in the absence of any consequences.\textsuperscript{236}

3. The Game-World/Commerce-World Distinction

Lederman suggests that the style of gameplay within a virtual world, and whether it is designed to support commerce, should factor into the analysis because of realization issues.\textsuperscript{237} Thus, she approaches the analysis at a threshold level, choosing to focus on the nature of the virtual world itself, rather than on the type of tax, or how to implement it.\textsuperscript{238} Her distinction between game worlds and unscripted worlds is keen, and bears a striking resemblance to the GAO’s recent description

\textsuperscript{231}\textsuperscript{231} See id. In Roscoe’s solution, the supply would essentially be unlimited, because anyone who wanted a “unique” item would have access to one, thereby destroying any scarcity in the marketplace, obliterating perceived value, and reducing the likelihood that it will incentivize anyone to pay taxes. See Roscoe, supra note 142, at 33; Johnson, supra note 230.

\textsuperscript{232}\textsuperscript{232} See supra text accompanying notes 163-65.

\textsuperscript{233}\textsuperscript{233} Lederman, supra note 8, at 1637-38 (demonstrating that an overly powerful in-game weapon might cause problems by restricting the exploration of content).

\textsuperscript{234}\textsuperscript{234} See supra text accompanying notes 163-65.

\textsuperscript{235}\textsuperscript{235} Id. at 1628.

\textsuperscript{236}\textsuperscript{236} Id. at 1628.

\textsuperscript{237}\textsuperscript{237} Id.

\textsuperscript{238}\textsuperscript{238} See id. at 1641.
of closed-flow and open-flow systems, respectively.\textsuperscript{239} It makes sense to approach virtual world tax issues in this manner because any proposed solution must take into account the practical applications in addition to policy issues.\textsuperscript{240} Such valuation and administrative difficulties are serious concerns.\textsuperscript{241} Taxing transactions in worlds such as Second Life, which are generally open-flow systems with readily available values for their virtual currencies, and exempting from taxation transactions occurring in game worlds, which are generally closed-flow systems, makes it significantly easier to disseminate guidance to taxpayers about when tax issues may arise from online gameplay.\textsuperscript{242}

From a policy perspective, there is a strong argument that in-game transactions should not be taxed unless virtual items are cashed out for real-world profits.\textsuperscript{243} Creating a default rule that barter transactions within game worlds are not taxable creates the kind of uniformity that consumers and tax practitioners can embrace in tax planning and preparation decisions.\textsuperscript{244} However, Lederman concludes that existing tax laws may be insufficient to deal with in-game exchanges of virtual world goods, depending on whether courts recognize the accession of virtual property rights for players.\textsuperscript{245} If courts subscribe to the licensing theory proffered by virtual world operators, participants will not acquire property rights and will not be taxed on in-game barter transactions.\textsuperscript{246}

B. New Ways to Disseminate Information to Taxpayers About Virtual Currency Transactions

As demonstrated above, the majority of literature in the area of virtual world taxation has focused on whether to tax virtual world transactions at all and, if so, what type of tax to implement and how to

\textsuperscript{239} Compare id. at 1628 ("Such a journey requires a character to obtain certain items, such as weapons and protective armor, in order to succeed and attain higher levels."). with U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 4 ("In a 'closed-flow' virtual currency system . . . [v]irtual tools amassed by players can be traded in a game for other-in-game assets or to advance to higher play levels . . . ").

\textsuperscript{240} Arnold, supra note 9, at 211 ("Though administrative matters may seem insignificant, the I.R.S. has continually made decisions based solely on this aspect.").

\textsuperscript{241} Id.

\textsuperscript{242} See Lederman, supra note 8, at 1665.

\textsuperscript{243} Id.

\textsuperscript{244} See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 13.

\textsuperscript{245} See Lederman, supra note 8, at 1631 (concluding that whether virtual items constitute property affects tax consequences).

\textsuperscript{246} See id. at 1654. On the other hand, the courts could determine that players do acquire property rights. See Jones, supra note 104, at 144 ("The argument that [virtual world transactions] are not realization events would fail if virtual items were considered property.").
collect it. Regardless of how the virtual property debate manifests itself, the IRS must provide additional guidance to taxpayers and tax professionals if it is to successfully mitigate the risk of noncompliance with the Code, as the GAO’s report notes. This Subpart focuses on how to effectively and efficiently disseminate information to taxpayers and practitioners regarding potential tax consequences that may arise from participation in virtual worlds. It is assumed that, at the very least, all transactions in which virtual items or currency are exchanged for real currency are triggering events in which economic benefit is clearly realized, and, thus, subject to taxation.

This proposed solution takes a three-pronged approach to circulating information in an attempt to foster compliance. The first prong focuses on directly disseminating information to taxpayers using splash pages, similar to the screens where TOS and licensing agreements are displayed. The second prong turns to the educational framework of active tax practitioners who are familiar with the Code, but are not necessarily thinking about tax consequences in the context of virtual worlds. As such, the primary objective is to educate and incentivize practitioners to ask pertinent questions when assisting taxpayers with return preparation. Finally, the third prong discusses the creation of a virtual currency exchange to facilitate the government in regulating significant transfers of virtual currencies at a threshold level, without having to impose unmanageable burdens on virtual world operators.

1. Disseminating Information to Taxpayers by Requiring Virtual World Splash Screens

The U.S. tax system is one of self-assessment and voluntary compliance. In fact, a taxpayer who is aware of an error or omission on a previously filed return is under no legal obligation to amend that

247. Chodorow, supra note 10, at 290; see supra Part IV.A.
248. U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 17.
249. See infra Part IV.B.1–2.
250. See 26 U.S.C. § 61 (2012); see also Comm'r v. Glenshaw Glass Co., 348 U.S. 426, 431 (1955) (holding that economic benefit must be clearly realized to be included in gross income).
251. See infra Part IV.B.1–3.
252. See infra Part IV.B.1.
253. See infra Part IV.B.2.
254. See Bingisser, supra note 171, at ¶26 (“Practitioners should be aware that virtual world transactions could result in real world tax consequences even though no real money is exchanged.”).
255. See infra Part IV.B.3.
return. Similarly, tax preparers who become aware of an error or omission on a client's return have a duty to inform the client of the consequences of such noncompliance, but are not legally obligated to take any corrective action. The vast majority of taxpayers, however, comply with the IRC despite its complexities and the minimal chance of audit. Thus, it stands to reason that providing additional information to taxpayers regarding potential tax consequences from virtual world transactions is likely to lead to significant increases in compliance with the Code.

Splash screens have been used for years to provide information to consumers, ranging from TOS and licensing agreements, to basic company contact information. In its simplest form, the user of a piece of software is presented with a screen upon execution of a computer program that displays information the developer deems important. For example, when a player begins loading World of Warcraft, she is presented with a screen that displays the full TOS agreement, and she must accept those terms prior to playing. If the terms are not accepted, she cannot advance beyond that screen.

Congress could empower the Treasury Department to issue regulations providing that virtual world proprietors must create a virtual roadblock, splash page, or other means of disclosing to individuals that

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258. 31 C.F.R. § 10.21 (2011).
259. LEDERMAN & MAZZA, supra note 256, at 11 (noting that the overall voluntary compliance rate for federal taxes is estimated at 83.7%).
260. See NAT'L TAXPAYER ADVOC., supra note 132, at 252 (finding that “[t]axpayers want to know the tax consequences of digital currency transactions”); U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 13 (“The unsophisticated taxpayer may not properly identify income earned through virtual economies or currencies, such as virtual online game assets exchanged for real world currency, as taxable income.”).
in-world transactions could lead to real-world consequences.\footnote{265}{See 26 U.S.C. § 7805(a) (2012).} Although different in subject-matter, the idea is not that dissimilar from the Surgeon General’s warning on nicotine products, or regulation requiring chain restaurants and vending machines to disclose the calorie content of their menu items.\footnote{266}{See SAMBROOK RESEARCH INT’L, A REVIEW OF THE SCIENCE BASE TO SUPPORT THE DEVELOPMENT OF HEALTH WARNINGS FOR TOBACCO PACKAGES 10 (2009), available at http://ec.europa.eu/health/tobacco/docs/warnings_report_en.pdf (finding that warning labels on tobacco products are effective at educating consumers and lead to an increased motivation to quit smoking); Law Calls for Calorie Counts on Vending Machines, WEBMD, http://www.webmd.com/health-insurance/20131230/calories-vending-machines (last visited Nov. 23, 2014).} Some people, faced with this additional information, make different decisions than they would have normally made absent the information.\footnote{267}{See SAMBROOK RESEARCH INT’L, supra note 266, at 10; Angela Herrington, Calorie Posting and Its Impact, REGBLOG (Aug. 31, 2011), http://www.regblog.org/2011/08/calorie-posting-and-its-impact.html.} At least one study has indicated that mandatory disclosure laws have reduced the calorie intake of Starbucks customers in New York City by six percent.\footnote{268}{Herrington, supra note 267. But see Mandatory Calorie Postings at Fast-Food Chains Do Not Influence Food Choice, SCIENCE DAILY (Nov. 15, 2013), http://www.sciencedaily.com/releases/2013/11/131115154458.htm (reporting that New York University researchers found that “[p]osting the calorie content of menu items at major fast-food chains . . . does not change purchasing habits or decrease the number of calories that those customers consume”).} Thus, there is evidence that a regulation providing access to additional information can significantly influence consumer behavior.\footnote{269}{See generally SAMBROOK RESEARCH INT’L, supra note 266; Herrington, supra note 267.} Since one of the prime causes of noncompliance stems from a consumer’s lack of information, increasing the knowledge base and awareness of individuals can, at minimum, put consumers on notice that their virtual actions might have tax consequences.\footnote{270}{Id. at 15.}

As the GAO’s report notes, the IRS has already posted information on its website regarding the tax consequences of virtual transactions.\footnote{271}{See ROBERT WOOD JOHNSON FOUND., IMPACT OF MENU LABELING ON CONSUMER BEHAVIOR: A 2008-2012 UPDATE 2 (2013), available at http://www.rwjf.org/content/dam/rwjf/reports/reports/2013/rwjf406357 (“Customers rarely seek out nutrition information from sources not available at the point of purchase . . . but they do see menu labels at the point of purchase and those labels increase their awareness of nutritional information.”).} However, there is a significant difference between a consumer being provided with information and a consumer being forced to seek it out elsewhere.\footnote{272}{Id. at 15.} The aforementioned six percent drop in caloric intake at Starbucks did not stem from access to the information, which was available on the Internet for years, but from the prominent placement of
such information in the most relevant of settings (placing it right in front of the consumer’s face at the point of sale). To create a comparable effect, virtual world operators could be required to provide a splash page upon program execution that states the following, or something similar:

Due to government regulations, please be advised that selling virtual goods or providing in-game services for real currency may result in a taxable event. Please consult your advisor or tax professional prior to engaging in this type of behavior. For additional information, see <insert relevant government website here>.

While many users choose to ignore the splash page and immediately click through without reading it, a select percentage will always scrutinize its content. However, unlike End-User License Agreements or privacy policies, which are often filled with confusing legalese, the proposed splash page would only have a few sentences written in plain English, and displayed in large, easy-to-read font, coupled with a link to a government website with more information. Implementation would be relatively simple, merely requiring virtual world operators to create an additional page that appears during the loading process.

2. Promote Awareness of Virtual Currency Transactions Among Tax Practitioners as Part of the Continuing Education Package

With over eighty percent of American households using the services of a tax preparer or tax software, the government has a strong incentive to ensure that such preparers are knowledgeable and provide proper advice. The IRS already has, at its disposal, a number of tools designed to educate active tax professionals, including forums, videos,

273. Id. at 3. Studies have shown that between one-half and two-thirds of customers report seeing calorie information after posting it on point of purchase locations. Id. at 4. Similarly, splash screens can be quite effective at providing information to consumers at a critical point—just prior to playing. See Gordon, supra note 262 (pointing out indirectly that information provided by splash screens are likely to be seen and cannot be avoided without significant program tampering).


275. Sauro, supra note 264.

276. Id.

277. See id.; text accompanying notes 274-75.


panels, and live webinars. 280 In addition, these tools are available to students and future practitioners through the “Link and Learn” page of the IRS’s website. 281 What is arguably more important than the existence of these resources, however, is the government’s ability to regulate continuing professional education (“CPE”) requirements. 282

Registered tax preparers, enrolled agents, and individuals with Preparer Tax Identification Numbers, must certify, upon renewal, that they have completed the requisite number of continuing education hours. 283 The IRS dictates what qualifies as CPE, and already requires registered preparers to earn at least three credit hours of federal tax law updates and ten credit hours of federal tax law topics in each registration year. 284 Because of this, many third-party companies that offer CPE courses categorize them into one of three categories: Ethical or Professional Conduct; Federal Tax Topics; and Federal Tax Updates. 285 Thus, the IRS has the ability to shape the educational requirements of those who practice before it, and should mandate that tax preparers spend at least one to two hours each registration year learning about trends and noncompliance issues involving virtual currencies. 286 If the tax dollars at stake from noncompliance are not significant enough to warrant their own category with subtopics, the IRS can at least require that tax preparers complete one virtual currency awareness module. 287


281. See Link & Learn Taxes, IRS, http://www.irs.gov/Individuals/Link-&-Learn-Taxes (last updated Mar. 10, 2014). This is an interactive, web-based course, that primarily provides training to students and volunteers who participate in the Volunteer Income Tax Assistance Program. Id.

282. See 31 C.F.R. § 10.0 (2011). Commonly referred to as Circular 230 by practitioners, Title 31, Section 10 provides regulatory guidance to those who practice before the IRS. Id.


284. §§ 10.6(e)-(f).

285. See, e.g., § 10.6(e)(3); IRS Continuing Education Courses, FLA. NAT’L U., http://www.fnu.edu/irs-continuing-education (last visited Nov. 23, 2014) (offering multiple courses in these three categories).

286. See §§ 10.6(e)-(f). Enrolled agents, enrolled retirement plan agents, and registered tax return preparers must renew their registration every three years. Id. §§ 10.6(d)(2)(v), (d)(3)(ii).

287. See § 10.9 (defining the requirements for continuing education providers, instructor qualifications, and program subject matter). The IRS could promulgate regulation requiring virtual currency training as a prerequisite to status renewal. See 26 U.S.C. § 7805 (2012) (authorizing the Secretary to “prescribe all needful rules and regulations for the enforcement of this title, including all rules and regulations as may be necessary by reason of any alteration of law in relation to internal revenue”).
This is especially important in light of the IRS’s Electronic Business and Emerging Issues policy group determining that virtual economies create significant opportunities for the underreporting of income.\textsuperscript{288} The IRS can continually provide annual updates regarding virtual world and virtual currency transactions to ensure that a growing number of tax professionals are aware of the issues and are capable of having intelligent conversations with their clients about the consequences of such transactions.\textsuperscript{289} What we want to prevent is the kind of conversation that legal scholar Julian Dibbell had with the IRS agent over the phone.\textsuperscript{290} If the IRS fails to provide any information in regards to a specific inquiry, it is directly contributing to taxpayer confusion and fostering noncompliance.\textsuperscript{291}

3. Establish a Virtual Currency Exchange to Act as a Clearinghouse for Transactions Meeting a Minimum Size

The concept of a clearinghouse\textsuperscript{292} in the financial world is nothing new.\textsuperscript{293} They exist as intermediaries between different firms conducting transactions to mitigate the risk of either party failing to comply with the terms of the agreement.\textsuperscript{294} The same concept can be used by the government to assist individuals in safely exchanging currency in open-flow and hybrid virtual economic systems, while simultaneously capturing useful information for tax compliance and anti-money laundering purposes, without the creation of burdensome reporting requirements for virtual world operators.\textsuperscript{295}

\begin{itemize}
\item \textsuperscript{288} U.S. GOV’T ACCOUNTABILITY OFFICE, supra note 6, at 15.
\item \textsuperscript{289} See, e.g., Is Your Hobby a For-Profit Endeavor?, IRS (June 2008), http://www.irs.gov/uac/Is-Your-Hobby-a-For-Profit- Endeavor%3F (stating that taxpayers must follow guidelines based on whether their activity is done for profit or as a hobby); Tax Consequences of Virtual World Transactions, supra note 41 (noting that cyber-economic activities may have real-world consequences).
\item \textsuperscript{290} Dibbell, supra note 141, at 49 (referring to the conversation he had on the phone with the IRS where he was informed that there was little to no guidance on how to tax virtual bartering).
\item \textsuperscript{291} See id.
\item \textsuperscript{294} Clearing House, supra note 292; MERRIAM-WEBSTER, supra note 292.
\item \textsuperscript{295} See Schlimgen, supra note 47, at 892 (suggesting that creating a system where a tax is imposed at the time of exchange might prevent significant enforcement problems).
\end{itemize}
From a theoretical perspective, it would be ideal for every virtual world to store the information from every transaction ever completed. The information could then be used for countless purposes, including identifying possible trends of taxpayer noncompliance and money laundering. However, as many scholars have opined, tracking and storing the data from billions of transactions is virtually impossible, and any regulation requiring operators to do so would almost certainly put all but the largest of them out of business. Creating a federal clearinghouse would also alleviate many challenges associated with data storage because the government would be aware of transactions as they occur in real-time, rather than relying on after-the-fact reporting. Furthermore, only relevant transactions would take place through the exchange. Trading a virtual shield for a virtual sword, for example, would not implicate the exchange because it does not involve currency.

There are, however, several different challenges that this idea poses, namely the initial integration of the exchange and countless virtual worlds. To alleviate this burdensome task, and because the purpose is not merely to substitute one massive problem (ongoing data collection) for another (integration with thousands of worlds), the IRS could require that virtual worlds with a minimum threshold user base, such as ten million, to register with the clearinghouse.

296. See Chodorow, supra note 10, at 292 (implying that tracking transactions would assist in determining basis, and thus, the tax consequences of transactions).
297. Arnold, supra note 9, at 210.
298. E.g., id. at 210, 212.
299. See Clearing House, supra note 292 (using an example to show how clearinghouses work in real-time); Exchanges vs. Clearinghouses (This Is Important), ECON. CONTEMPT (Apr. 14, 2010, 4:36 PM), http://economicsofcontempt.blogspot.com/2010/04/exchanges-vs-clearinghouses-this-is.html ("Clearinghouses also centralize trade reporting, and can provide any level of post-trade transparency to the [over the counter] derivatives market that your heart desires—same-day trade reporting, including prices . . . ."); Miranda Marquit, What Do Clearing Houses Do?, INVESTORJUNKIE (Mar. 31, 2014), http://investorjunkie.com/14202/clearing-houses (explaining that "it’s possible for a clearing house to settle transactions in a matter of seconds" and that they can offer valuation services as well).
300. See supra text accompanying notes 243-44.
301. Bingisser, supra note 171, at ¶ 11 (suggesting that a like-kind exchange would not be taxed).
302. See Gian Trotta, Dancing Around EAI ‘Bear Traps,’ EBIZQ (Dec. 15, 2003), http://www.ebizq.net/topics/int_sbp/features/3463.html (claiming that seventy percent of all enterprise application integration projects fail due to management issues).
remit payment, and the coins would be delivered thereafter.\textsuperscript{305} Existing regulations already use minimum thresholds, such as IRC section 6050W,\textsuperscript{306} which requires third-party payment facilitators to report the total amount of revenue received by U.S. account holders to the IRS when they receive in excess of twenty thousand dollars in two hundred or more transactions within a calendar year.\textsuperscript{307}

The other obvious concern about this type of system is one of valuation.\textsuperscript{308} The government would have to first determine the minimum threshold for the transactions that it wants to take place on the exchange, such as exchanges of currency valued in excess of two thousand dollars on the open market.\textsuperscript{309} Then, the IRS would have to continuously track the value of various virtual currencies relative to the dollar in order to determine whether the regulation applies.\textsuperscript{310} While this creates additional work for the regulators, it nevertheless appears feasible because open-flow and hybrid economic systems already have thriving secondary markets from which the fair market value could be determined.\textsuperscript{311}

V. CONCLUSION

The government has recognized that the marketplace for virtual currency transactions is increasing at an extraordinary rate and represents a continuing source of noncompliance.\textsuperscript{312} In order to effectively capture revenue from virtual transactions, the IRS must promulgate new regulations that bring potential tax consequences to the attention of virtual world and currency operators.\textsuperscript{313} Given the complexity of the existing Code, taxpayer confusion, and general lack of knowledge about virtual economies, a multi-tiered approach to fostering

\textsuperscript{305.} Cf. \S\S 1.6050W-1(a)(1)-(4), (c)(4). This hypothetical assumes that the transaction value of $2000 exceeds the minimum threshold amount for the regulation to apply.

\textsuperscript{306.} \S 1.6050W.

\textsuperscript{307.} \S\S 1.6050W-1(a)(1)-(4), (c)(4); Everything You Need to Know About IRC Section 6050W, PAYPAL, https://cms.paypal.com/us/cgi-bin/marketingweb?cmd=_render-content&content_ID=marketing_us/IRS6050W (last visited Nov. 23, 2014) (emphasizing that the reporting requirements only apply to those sellers who exceed twenty thousand dollars in gross payments, and engage in more than two hundred transactions within a calendar year).

\textsuperscript{308.} See Arnold, supra note 9, at 211 (explaining that fluctuations in the market for virtual goods makes them difficult to value).

\textsuperscript{309.} See Beckman, supra note 37, at 174.

\textsuperscript{310.} Arnold, supra note 9, at 211-12.

\textsuperscript{311.} See discussion supra Part II.B.2.b-c.

\textsuperscript{312.} See Newquist, supra note 16 (discussing the Joint Economic Committee's awareness of the public policy questions raised by virtual economies since 2006).

\textsuperscript{313.} U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 6, at 17.
compliance is needed. Implementing a regulation that requires virtual world operators to create splash screens would be a useful first step in promoting awareness among taxpayers. Moreover, mandating virtual currency CPE requirements and creating a federal virtual currency exchange are likely to be even more effective in mitigating noncompliance. Regardless of how the substantive legal issues are resolved with respect to virtual property, increasing taxpayer awareness and access to information is likely to lead to more accurate reporting.

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314. See supra Part IV.B.
315. See supra Part IV.B.1.
316. See supra Part IV.B.2–3.
317. See supra Part IV.

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