A multi-billion dollar e-commerce industry is testing the limits of international tax systems. While general forms of e-commerce have posed challenges to international tax regimes before, the sale of virtual property is uniquely difficult to tax. If a German player in the online game Star Wars: The Old Republic sells a powerful lightsaber to a Canadian player, there is no clear way to locate or describe the transaction. Was it the sale of goods or services? Did it occur where the buyer, seller, financial intermediary or server was located? Without the ability to answer these questions consistently, international tax regimes will clash, resulting in over- or under-taxation and a misallocation of tax revenues.
INTRODUCTION

A multi-billion dollar industry is testing the limits of international tax systems. Wealthy gamers from around the world are spending real money to purchase “property” in online video games, which one would normally receive from simply playing said games. In response, a cottage industry has developed which actively trades real currency for this virtual property, an activity colloquially known as real money trading (RMT). While the RMT market involves significant cross-border transactions, international tax systems are ill-equipped to tax income from these transactions.

Imagine a hypothetical company, XPSales, Inc.1 Incorpora-
rated in a tax-friendly jurisdiction such as Vanuatu, XPSales hires workers in China to play the popular video game World of Warcraft. These workers play the game to collect in-game currency and chattels that are generated and stored on a French data server. XPSales then sells this property to World of Warcraft players in England through a German-based website using an American financial intermediary to process the payment. This transaction could plausibly generate taxable income in any one of six jurisdictions. One might be tempted to write off each specific transaction as de minimis; however, with estimates of the annual value of RMT ranging from two to five billion USD, RMT is a significant market that should not be ignored. Additionally, RMT may provide a useful source of income for low-income countries. Thus, it is critical that RMT is accounted for within international tax systems. Unfortunately, how that can be done is far from clear.

This Note analyzes the appropriate tax treatment of income generated from cross-border RMT. Concluding that RMT fundamentally challenges the basic principles upon which current international tax systems and policy are based, this Note argues for a practical solution based on withholding taxes with the revenue split between the virtual world’s publication location and the location of labor associated with the production of virtual property. Barring a fundamental restructuring of international tax systems, which is unlikely, the

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3. Dibbell, supra note 1; LEHDONVIRTA & ERNKVIST, supra note 1, at xi.


5. PayPal, an American financial intermediary, is commonly cited in RMT accounts. See, e.g., LEHDONVIRTA & ERNKVIST, supra note 1, at 20; F. Gregory Lastowka & Dan Hunter, The Laws of the Virtual Worlds, 92 CAL. L. REV. 1, 38 (2004). The server hosting the sales order and processing can be hosted almost anywhere. An informal sample of popular RMT websites, conducted by the author, revealed hosting locations in the United States (primarily Texas), Hong Kong and Germany.


7. LEHDONVIRTA & ERNKVIST, supra note 1, at xi.
withholding solution is the least problematic of the available options.

Part I of this Note provides an introduction to virtual property and RMT. Part II explains how RMT challenges traditional international tax policy. Part III assesses a number of potential solutions on the basis of economic theory, political reality and administrability, concluding that withholding is the most realistic option.

I. VIRTUAL PROPERTY AND RMT

This Part provides an introduction to virtual property and real money transactions. Section A explains the concept of virtual property from a user’s perspective and a technical perspective. Section B describes the real money trade in virtual property and provides an illustrative example from the viewpoint of a buyer and a seller, as well as a technical perspective.

A. What is Virtual Property?

Virtual property is computer code that “is designed to act more like land or chattel than ideas.”

What distinguishes virtual property from most other computer code is that virtual property is rivalrous as a result of the artificial creation of scarcity. Most computer code is non-rivalrous, meaning that use by one person does not preclude another’s use. Take, for example, a digital movie file. Creating the first copy of a digital movie file “may require substantial effort and investment, but once that is done, the cost of creating additional copies by duplicating the original is negligible.” Protection of this initial investment is the domain of intellectual property.

In contrast, virtual property is rivalrous, meaning that its production entails significant marginal costs: each additional copy requires substantial effort to produce. Often, the code’s designers artificially create these costs. In his seminal article on virtual worlds, Edward Castronova explained that designers do this because “Scarcity...
ty is Fun.”15 In virtual worlds such as online video games, designers could allow users to duplicate digital representations of property at near zero cost. However, they often don’t because “people seem to prefer a world with constraints to a world without them . . . Constraints create the possibility of achievement, and it is the drive to achieve something . . . that seems to create an obsessive interest.”16 This “obsessive interest” is, of course, valuable to online game designers as their publishers typically charge monthly subscription fees for access.17 An example will illustrate this phenomenon.

1. The User’s Perspective

World of Warcraft is an immensely popular online video game with over ten million active players.18 The game is based in a virtual fantasy world called Azeroth, and each instance of the game is populated by tens of thousands of computer- and human-controlled characters.19 Human-controlled characters can engage in a variety of behaviors but “the core gameplay . . . revolves around fighting monsters and completing quests.”20 Successful completion of these tasks rewards players with “experience points,” various items and in-game currency. The primary function of experience points is to allow characters to gain “levels”—a numerical signifier of the character’s general strength. At each new level, the characters get better at combat until they reach the maximum level. In contrast with experience points, items are diverse and have a wide variety of uses. For example, they may be tools a character can use in combat (e.g., a deadlier sword or a more protective shield) or have some aesthetic value (e.g.,


16. Id. at 15.


20. BATTLE.NET, supra note 19.
a decorative shirt). Often, these items can be sold or auctioned to other characters for in-game currency. With increased strength from increased levels and rare items, players can kill more difficult enemies, finish harder quests and venture into new territories. To be able to fight the most difficult enemies and complete the most difficult quests, players must invest many hours over many months.\footnote{This investment is reflected in the accumulation of player levels, items and currency, which are all forms of virtual property. From the user’s perspective, virtual property is an electronic resource that can only be obtained with significant labor costs because of the artificial constraints imposed by virtual world designers.}

2. The Technical Perspective

The two main architectures for multiplayer video games are centralized server and peer-to-peer.\footnote{For massively multiplayer games, publishers typically use the centralized server architecture.\footnote{At significant financial cost, game publishers purchase and maintain powerful computers known as servers.\footnote{These servers store all the objects, characters and other information about a particular instance of the virtual world in a database and deliver them to users’ computers, known as clients, when requested.}} For example, if a player checks his or her inventory or “bag” of items by pressing the appropriate key, the client automatically sends a request to the central server asking what items the player possesses and this information will be returned and displayed. In order to maximize performance, some components of the game are replicated on each client.}} For example, the 3D model of a particular sword may be locally stored,

\begin{itemize}
\item \footnote{21. Leandra Lederman, “Stranger Than Fiction”: Taxing Virtual Worlds, 82 N.Y.U. L. Rev. 1620, 1628–29 (2007); Sheldon, supra note 17, at 761.}
\item \footnote{24. See id.; Adam Wierzbicki, Trust Enforcement in Peer-to-Peer Massive Multiplayer Online Games, in On the Move to Meaningful Internet Systems 2006: CoopIS, DOA, GADA, and ODBASE 1163, 1163 (R. Meersman et al., eds., 2006).}
\item \footnote{25. Sergio Caltagirone, Matthew Keys, Bryan Schlief & Mary Jane Willshire, Architecture for a Massively Multiplayer Online Role Playing Game Engine, 18 J. Computing SCI. COLLEGES 105, 108 (2002).}
\item \footnote{26. Id. at 109.}
\end{itemize}
but a player will not have access to that sword unless the server informs the client that the player possesses the sword. To prevent cheating, the communications between server and client are secured. From a technical standpoint, the sword exists both on the centralized server and the client. Conceptually, however, the valued property can be fairly said to exist solely on the server because a player may go from one client to another worldwide and still have access to the visual representation of the sword.

The alternative for massively multiplayer games is peer-to-peer architecture. Because of significant variety among peer-to-peer architectures, generalizations may be misleading and an enumeration impossible. However, the basic concept behind peer-to-peer architectures is that data processing and storage typically handled by a centralized server are instead distributed among the clients. This system poses security concerns, which may be resolved through complex encryption or through the use of a hybrid system involving a central authentication server. Peer-to-peer architectures present an even greater challenge for conceptualizing the location and nature of virtual property than centralized servers, as the data of value only exists through a combination of computers distributed throughout the world. For the sake of simplicity, this Note will focus primarily on centralized-server architectures.

B. What is RMT?

RMT is the sale of virtual property or virtual currency for real world currency, such as World of Warcraft gold for U.S. dollars. Not surprisingly, RMT transactions are highly controversial among gamers. Some see it as a form of cheating, analogizing it to playing a game of “Monopoly” in which players could use real money to buy Boardwalk. Many game publishers agree and actively seek to eliminate RMT. However, other publishers embrace RMT for profit or

27. Id. at 107.
28. See generally Wierzbicki, supra note 24; Chen & Muntz, supra note 23; Fan, Taylor & Trindler, supra note 22.
30. Wierzbicki, supra note 24, at 1164.
32. Dibbell, supra note 1.
33. Walt Wyman, Gil-farming Crackdown in Final Fantasy XI, GAMESPOT (June 13,
to protect their customers from the dangers of the third party market, as some virtual property vendors are notorious for stealing from their customers.\textsuperscript{34} For example, Blizzard, the maker of World of Warcraft, recently introduced a new game with a built-in auction house that allows players to seamlessly buy and sell virtual items with real currency.\textsuperscript{35} Some publishers even create and sell virtual property directly to customers.\textsuperscript{36} Outside of the context of gaming, some believe that RMT is a potentially significant market for developing countries, especially because most earnings are captured in developing countries.\textsuperscript{37} Regardless of one’s views on the practice, the most important point is that it’s happening—and on a large scale.

The RMT market is highly diverse and complex.\textsuperscript{38} Some sellers may engage in all aspects, while others may specialize in specific areas such as production, wholesaling or retailing.\textsuperscript{39} Set out below is a simplified structure of an RMT transaction.

1. The Buyer’s Perspective

Returning to the hypothetical of XPSales, imagine an avid gamer named Tom who lives in England. Tom’s friends have been playing World of Warcraft since its release in late 2004 but Tom has only recently decided to join his friends.\textsuperscript{40} Because Tom’s friends have dedicated hundreds or thousands of hours to developing their


\textsuperscript{36} In this situation, the line between virtual property and the sale of intellectual property (IP) becomes less clear. For example, Facebook used to offer virtual gifts for users to purchase and send to their friends. Because the gifts were only obtainable through purchase directly from the creator, they were very similar to a traditional chattel embodying IP. If, in contrast, Facebook allowed users access to these gifts through labor (e.g., solving puzzles) or purchase them if impatient, then they might more readily embody virtual property. See Aimee Picchi, \textit{Money for Nothing: Sales of Imaginary ‘Virtual Gifts’ Approach $1 Billion}, DAILYFINANCE (Oct. 14, 2009, 3:15 PM), http://www.dailyfinance.com/2009/10/14/money-for-nothing-sales-of-imaginary-virtual-gifts-approach.

\textsuperscript{37} See generally \textit{Lehdonvirta & Ernvist, supra} note 1.

\textsuperscript{38} \textit{Id.}

\textsuperscript{39} \textit{Id.} at 15–17.

characters, they have already obtained the highest level, a large amount of virtual currency and powerful items. Tom’s friends encourage him to catch up to them quickly so that they can tackle the most difficult aspects of the game as a group.\footnote{See \textit{The Late Game}, \textsc{Battle.net}, http://us.battle.net/wow/en/game/guide/late-game (last visited Dec. 17, 2011).} Unfortunately, catching up is going to be a formidable challenge that will require a significant amount of time.\footnote{Sheldon, \textit{supra} note 17, at 761.} Looking for an easier way to catch up, Tom discovers XPSales’ website where he can purchase in-game currency for under ten dollars (USD) or have his character continuously played (“power leveled”) for twelve days straight to get to the highest level for 150 dollars (USD).\footnote{These numbers were derived from \textsc{Guy4Game.com}, a website that provides virtual property services for a variety of online games. \textit{See} \textsc{Guy4Game}, http://www.guy4game.com (last visited Feb. 3, 2013).} XPSales’ offerings might appeal to Tom for a variety of reasons: he wants to play the game with his friends as soon as possible; he sees having a powerful character as a symbol of social status; or he may simply want to avoid repetitive gameplay.\footnote{F. Gregory Lastowka \\& Dan Hunter, \textit{The Laws of The Virtual Worlds}, 92 \textsc{Cal. L. Rev.} 1, 66 n.349 (2004).} Tom chooses to buy both power leveling and in-game currency. On XPSales website Tom enters his game account, password and character name. When he selects payment through PayPal, he is taken to the PayPal website where he enters his credit card and billing information. Twelve days later he receives an e-mail notifying him that his account is ready and logs on to find his character at the highest level with a sizeable amount of virtual currency.

2. The Seller’s Perspective

In this hypothetical, Hao, a recent law graduate,\footnote{Julian Dibbell, \textit{The Life of the Chinese Gold Farmer}, \textsc{N.Y. Times} (June 17, 2007), http://www.nytimes.com/2007/06/17/magazine/17lootfarmers-t.html.} is an employee of XPSales. XPSales is a small company incorporated in Vanuatu but with all significant operations in China.\footnote{\textit{Id.}; \textit{Industry Leading Affiliate Program by IGE}, IGE, (Apr. 2008), http://www.ige.com/pressreleases/industry-leading-affiliate-program-by-IGE.html.} Hao has never met the executives of the company but knows that they are wealthy investors from a variety of countries.\footnote{Julian Dibbell, \textit{The Decline and Fall of an Ultra Rich Online Gaming Empire}, \textsc{Wired} (Nov. 24, 2008), http://www.wired.com/gaming/virtualworlds/magazine/16-12/f_ige.} The company rents office
space in China, fills its office with computers connected to the Internet and hires employees to play World of Warcraft for twelve-hour shifts, twenty-four hours a day. Hao just received word from his manager that a player in England (Tom) has requested power leveling and currency. Hao logs into the account using Tom’s password and begins killing monsters of progressive difficulty in order to raise Tom’s character to the max level. Hao’s colleague, Li, is tasked with collecting the in-game currency. To do that, Li will typically play on a high level character, killing relatively easy monsters with high statistical yields of in-game currency or items that can be sold for in-game currency. When finished, Hao informs Tom via e-mail while Li sends an in-game mail to Tom’s character, which contains the currency.

3. The Technical Perspective

When Tom clicks the link for XPSales, he connects to a German-hosted website which displays all the relevant information, prices and policies. The website offers an order form with various fields for Tom to enter his game account information, password, e-mail and the products he selected. Tom elects to pay via PayPal, an American financial intermediary. When Tom clicks the PayPal button, which is a link with XPSales’ information embedded, he is redirected to PayPal’s website. On PayPal’s website, Tom enters his credit card information. PayPal then withdraws 160 dollars (USD) worth of pounds from his U.K. bank account and simultaneously deposits the same amount into XPSales’ PayPal account, which

48. Dibbell, supra note 45.


50. An informal survey, conducted by the author, of numerous RMT websites revealed that the majority were hosted in the United States, specifically in Texas and Arizona. However, other sites were located in Europe and China. One site, RandyRun.com, was located in Germany. See Who is Randy Run? The Gaming-Fun Revolution!, RANDYRUN, http://www.randyrun.com/who_is.php (last visited Nov. 26, 2012).


53. There is a variety of methods to link to PayPal. For a simple example, see Buy Now Buttons, PAYPAL, https://www.paypal.com/cgi-bin/webscr?cmd=_pdn_xclick_techview _outside (last visited Nov. 26, 2012).
XPSales may withdraw at its convenience. Once XPSales’ staff receives the order information from the German website and the payment confirmation from PayPal, they begin working on completing the order. Unknowingly, Tom and his friends have selected an English-language server located in Paris, France. To avoid connection issues, censorship or detection, Hao and Li may have to connect to the French server through a Europe-based proxy. As the two play the game, the server records changes to their respective characters. When Hao finishes leveling Tom’s character he must simply inform Tom. When Li is finished he must in-game mail the virtual currency. In doing so, the server will deduct the currency from Li’s virtual account. Once Tom opens the mail and clicks accept, the server will deposit the gold in Tom’s virtual account. The transaction is complete.

II. INTERNATIONAL INCOME TAX AND RMT

Cross-border RMT transactions like that of the XPSales hypothetical are common, with annual trade estimates valued in billions of dollars. Despite the transnational nature of this burgeoning industry, the existing literature simply assumes that RMT is taxable domestically, and primarily focuses on whether in-game transactions of virtual property will give rise to domestic tax liability as a form of barter. Yet a large portion of RMT occurs across national borders, particularly with sales from developing to developed nations. If

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55. EU English Realms Info, supra note 4.

56. For example, Guy4Game.com claims to use a local IP address for power leveling. Wow Power Leveling, GU4GAME, http://www.guy4game.com/world-of-warcraft-us/wow-powerleveling/ (last visited Jan. 3, 2012). To do this they will most likely connect through a proxy server or otherwise route transmissions through the local computer.

57. For a general overview of in-game mail in World of Warcraft, see Mail, WoWWiki, http://www.wowwiki.com/Mail (last visited Nov. 26, 2012).

58. Id.

59. See Leidonvirta & Ernkvist, supra note 1, at 11–15; Shiels, supra note 6; Fairfield, supra note 6.


RMT is to be taxed appropriately, it must be analyzed under the framework of international tax.\textsuperscript{62} However, the two primary factors in an international tax analysis—the location of the transaction and the type of the transaction—are unclear in the context of RMT. While international tax systems have faced uncertainty in these areas before, particularly with e-commerce, RMT challenges both determinations at the same time and to a greater extent than previously seen. Therefore, it is unlikely that countries will agree on how to tax RMT. This lack of agreement may lead to high effective tax rates and inappropriate allocation of tax revenues in the future.

\textbf{A. International Income Tax Principles}

International tax policy seeks to balance two competing jurisdictional principles: source taxation and residence taxation.\textsuperscript{63} Source taxation dictates that tax rates should be determined by, and the revenue given to, the jurisdiction where income-generating activity takes place.\textsuperscript{64} Residence taxation dictates that tax rates should be determined by, and the revenue given to, the jurisdiction where the taxpayer resides or is a citizen.\textsuperscript{65} The economic justification for source taxation is that the source jurisdiction has provided the market and infrastructure for the transaction to take place and should thus be compensated.\textsuperscript{66} In contrast, the economic justification for residence taxation is that the taxpayer reaps the benefit of social services such as health care, education and military protection and should pay for these services.\textsuperscript{67} Additionally, source and residence taxation have the practical justification in that the tax may be assessed \textit{in rem} and \textit{in personam}, respectively.

When a transaction occurs across borders, various countries may wish to assert jurisdiction based on either source or residence. However, if more than one country asserts jurisdiction, the transac-

\textsuperscript{62} The author is aware of no literature addressing the international tax issues raised by RMT. For a brief summary of state and local tax concerns raised by RMT, see Stephen Kranz et al., \textit{Taxing the Virtual World... And Beyond}, \textit{State Tax Notes} (2011).


\textsuperscript{64} \textit{Id.}

\textsuperscript{65} \textit{Id.}

\textsuperscript{66} \textit{Staff of the Joint Comm. on Taxation, Background Materials on Business Tax Issues Prepared for the House Committee on Ways and Means Tax Policy Discussion Series} 54 (2002).

\textsuperscript{67} Graetz & O’Hear, \textit{supra} note 63, at 1037.
tion may be subject to an unduly high effective tax rate. This phenomenon is called double taxation (although more than two jurisdictions may be involved) and creates substantial barriers to cross-border business activities.68 In response, countries have developed a hodgepodge of domestic laws, international treaties and legal norms to resolve these competing claims.69 While allocation of revenue is a major concern, countries are also concerned with how the effective tax rate influences the incentives for inbound and outbound transactions.70 The United States provides a ready example of an international tax system.

The United States’ international tax system incorporates elements of both residence and source taxation. First, a residency determination classifies an individual or entity as either a “United States person” or a foreign person. Second, a source determination classifies income as either U.S. source or foreign source. U.S. persons are then subjected to taxation on worldwide income. This U.S. tax is offset by a credit for foreign taxes paid to foreign governments, though the amount of the credit may not exceed what the taxpayer’s U.S. tax liability would have been on foreign source income. Foreign persons, on the other hand, are only subject to taxation on their U.S. source income. This constitutes the default U.S. international tax regime, which is then substantially modified by bilateral treaties. Both the default regime and the treaty-modified regimes heavily depend on source and residency classification. However, both source and residency can be difficult to determine in many circumstances.

International tax systems have long struggled to accurately define the source of a transaction and the residence of a taxpayer.71 Designating a single location as the source of a transaction is an inherently questionable endeavor, since many business transactions have substantive economic connections to a variety of jurisdictions.72

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71. See generally, Graetz & O’Hear, supra note 63, at 1092–94.

Moreover, as globalization subdivides business activities among many different countries, the source inquiry has become increasingly difficult. Similarly, the residence inquiry has become more difficult as both individuals and corporate charters are becoming increasingly mobile.73

In order to decide whether to apply source taxation or residence taxation, international tax systems typically look at the type of transaction. For example, an international tax system may tax services income based on source and investment income based on residence. However, across all types of transactions there is a strong bias in favor of source taxation, with residence jurisdictions receiving residual taxes.74 To determine a transaction's source location, international tax systems generally look at the type of the transaction and its geographical location.75 To determine residence for corporations, some tax systems apply formalistic tests such as the location of incorporation.76 However, with increased corporate mobility, many tax systems are now looking at more substantive factors in an effort to geographically locate the taxpayer.77 Therefore, at a general level, to evaluate the method of taxing a transaction under current systems, three determinations will need to be made: (1) what is the type of transaction (Type), (2) where is the geographic location of the transaction (Location) and (3) what is the geographic location of the corporation engaging in that transaction.

B. Challenges Posed by RMT for International Tax

It is difficult to make the three aforementioned determinations with respect to RMT because neither the Type nor the Location of RMT transactions is clear. It may be somewhat easier to determine the geographic location of corporations engaged in RMT, though to the extent that such determinations are based on the Location of RMT transactions, the same issues are prevalent. It is true that international tax systems have faced difficulty with Type and Location determinations before. However, RMT challenges both determinations at the same time and to a greater extent than previously seen.

73.  STAFF OF THE JOINT COMM. ON TAXATION, 112TH CONG., supra note 69, at 51.
74.  Id. at 52.
76.  Id. at 12.
The simultaneous nature of the Type and Location challenge is particularly important because tax systems have typically responded to uncertainty in one area with increased reliance on the other.

1. Type of Transaction

International tax systems use Type to source transactions because it provides a bright line rule and taxpayers can rarely change Type for tax planning purposes. While broad rules based on Type may not accurately portray the economic substance of every transaction, it is likely that, in the aggregate, these rules readily approximate the true source of income. Some transactions, however, are difficult to place into traditional categories. For example, corporate financing can fall on a spectrum between debt and equity that may make bright line rules difficult.78 International tax systems have dealt with these difficulties before but RMT challenges Type determinations in a fundamentally new way.

Some of the more recent examples of Type difficulties are those in the realm of e-commerce. Arthur Cockfield has written extensively on the international tax issues posed by e-commerce, and suggests that e-commerce may challenge Type determinations because cross-border transactions involving the transmission of digital goods or services often make it difficult to determine whether a transfer of a product has occurred, whether services have been performed, or whether an intangible product has been licensed. The problem is that transactions involving digital goods and services often blur the lines among different categories of income.79 Cockfield cites the example of whether the sale of an e-book, which is periodically updated, represents the sale of services or a license.80 Certainly such a transaction does blur the line between services and a license—but does it do so any more than the sale of a hardcover book with the promise to mail pocket part updates? If e-commerce poses

78. This issue has been resolved in the United States through both case law and regulations. See, e.g., TIFD III-E, Inc. v. United States, 459 F.3d 220 (2d Cir. 2006).


extra difficulty in classification, it is a result of the delivery method rather than the substantive product. Indeed, Cockfield highlights this point by expressing a preference for treating e-commerce transactions and traditional transactions similarly. If e-commerce created a new substantive product rather than simply offering new delivery, such a policy would seem impossible. While new delivery methods may highlight existing classification issues, it is likely that countries will be able to converge on classification as the products are not, substantively, very different from traditional products.

In contrast to traditional e-commerce, RMT represents the sale of something new. Legal entitlements to virtual property are highly uncertain. Video game publishers typically assert significant contractual rights through End User License Agreements (EULAs) that force the user to disclaim any property interests. Moreover, only a few countries have distinct regimes for the protection of virtual property. This uncertainty has prompted a number of articles addressing legal entitlements to and understandings of virtual property. Yet regardless of the legal uncertainty regarding ownership, it is fairly clear that when real money is exchanged, taxable income is generated. Thus, if RMT is to be fit within current international tax systems, the transactions must be classified and this classification must be agreed upon.

At its base, virtual property, of any variety, is code. Ownership of a virtual house, a virtual sword, virtual gold or a virtual character of a certain level is all represented numerically in a database. The monetary value of that code comes from a combination of the game’s restrictions, the server’s data processing abilities and connectivity to the Internet. A player can only change these numerical values in desirable ways by following the rules of the server (i.e., playing for long periods of time) or through hacking. While it is easy to understand why someone might attach value to this code, it is hard to fit it within traditional understandings of property. Some companies

81. Id. at 137–38.
82. Sheldon, supra note 17, at 751; Lastowka & Hunter, supra note 44, at 49–50.
83. Fairfield, supra note 6, at 1082.
84. Id. at 1050.
85. See, e.g., Sheldon, supra note 17; Lastowka & Hunter, supra note 44; Fairfield, supra note 6.
87. Sheldon, supra note 17, at 760 n.41.
88. Id.
attempt to limit ownership interest in virtual property through the language of intellectual property. They purport to license access to data on the server in a limited fashion that cannot be transferred.\textsuperscript{89} This framework is a poor fit for virtual property. Intellectual property law is designed to protect investments in ideas when the reproduction of those ideas has small costs. In contrast, virtual property has value precisely because of the difficulty in reproduction. The value in virtual property is the labor, not the idea.

The challenges of dealing with virtual property under current legal systems have given rise to a number of proposed solutions. Some scholars have proposed treating virtual property as the equivalent of real world property.\textsuperscript{90} According to Fairfield, because virtual property functions like real world property, it should be protected as such.\textsuperscript{91} Fairfield emphasizes the need to counterbalance contractual restrictions with property regimes in order to minimize transaction costs.\textsuperscript{92} Thus Fairfield would place limits on the ability of manufacturers to disclaim users’ property interests.\textsuperscript{93} However, there are two problems with this assertion. First, all virtual property is essentially the same, physically and substantively, whether it is imitating real property, goods or currency. The law has developed different treatment for land, goods and currency precisely because there are inherent differences in these items. For example, United States tax law treats land as if it has a continuous value while goods are thought to depreciate.\textsuperscript{94} This is not true in a virtual world as the land could be terminated at any time while the goods may continue persistently because code does not typically deteriorate.\textsuperscript{95} Ultimately, it does not make sense to treat a house in an online world differently than a car in the online world if the same processes are required to get them, the same restrictions apply to their usage and they have the same persis-

\begin{itemize}
\item \textsuperscript{89} Sheldon, supra note 17, at 763–73.
\item \textsuperscript{90} Fairfield, supra note 6, at 1102.
\item \textsuperscript{91} Id.
\item \textsuperscript{92} Id. at 1092–93.
\item \textsuperscript{93} Id. at 1083–84.
\item \textsuperscript{94} See, e.g., Internal Revenue Service, IRS Publication 527: Residential Rental Property (Including Rental of Vacation Homes), 6 (Jan. 3, 2013), available at http://www.irs.gov/pub/irs-pdf/p527.pdf (“You cannot depreciate the cost of land because land generally does not wear out, become obsolete, or get used up.”).
\end{itemize}
An alternative conception, not widely discussed in the literature, is to treat virtual property as meaningless in and of itself, but the transaction as a sale of a service. Conceptually this might best explain the transaction, since the purchase of virtual property in an online video game is in many ways the equivalent of having another play the game for you. This would also have the advantage of explaining all different types of virtual property in a uniform way. However, the difficulty with a service conception is that virtual property can be and often is treated as a commodity, where intermediaries such as wholesalers separate the producers and sellers.\footnote{Leidonvirta & Ernkvist, supra note 1, at 16.}

With little domestic or international agreement on how to analyze virtual property and RMT, it is unlikely that RMT transactions could be readily classified for international tax purposes. Moreover, even if RMT could be classified, it may serve little purpose. The purpose of Type classification is that, in the aggregate, sourcing based on Type best reflects the geographic substance of the transaction. However, because virtual property fundamentally challenges geographic conceptions, simply deeming it analogous to a current Type category and sourcing on that basis is likely to be disagreeable to jurisdictions that are adversely affected by such a classification. Given the improbability of a simple Type determination for RMT transactions, countries may instead look to tax on the basis of Location. However, Location is similarly uncertain and offers no more guidance than Type.

2. Location of Transaction

The geographic location of certain activities is of central importance to international tax systems. Which activities are examined depends on the particular tax system applicable to the transaction. For a particular transaction, one system might ask where legal title passed while another might ask a series of holistic questions in order to determine the primary location of business activity.\footnote{Cockfield, supra note 80, at 145.} Nevertheless, at the heart of any international tax regime there is always a question about where to situate certain activities or persons. RMT and RMT businesses, however, are much more difficult to conceptualize geographically than traditional commerce or even e-commerce. E-commerce is a delivery mechanism for goods and services produced in the physical world; in contrast, RMT involves the produc-
Cockfield highlights the difficulty that e-commerce poses to the international tax system, arguing that the location tests in use do not adequately map onto the flexibility of e-commerce.\textsuperscript{98} For example, the permanent establishment test in the Organization for Economic Co-operation and Development (OECD) model treaty may inappropriately treat a webserver as a permanent establishment even though more substantial business activity takes place elsewhere.\textsuperscript{99} Additionally, Cockfield stresses the possible strain that e-commerce can pose on these location tests because it is very easy to shift activity across jurisdictions.\textsuperscript{100} For example, a webserver could easily be moved between jurisdictions for tax purposes in a way that a factory could not. Finally, Cockfield and others have noted that anonymity in online businesses can undermine the practical ability of a state to tax income generated by those businesses.\textsuperscript{101} However, while e-commerce poses significant difficulties for international tax, e-commerce transactions are not fundamentally distinct from traditional commerce. If a buyer purchases an MP3 or a T-shirt online, that product is still manufactured or intellectually developed in a particular jurisdiction and received in a particular jurisdiction. Each particular action involved in the creation of those products takes place in a specific jurisdiction. The same cannot be said for virtual property sold through RMT. The production and purchase of virtual property takes place primarily in an online world that can be spread across multiple jurisdictions.

On the production side, it is difficult to choose a geographic jurisdiction where virtual property is produced. If a laborer in China logs onto a French server of a video game published by a U.S. company in order to create virtual property, where is this property created? A services conception might suggest China, but it could also suggest the location of where the service is received (i.e., the buyer’s location). A goods conception might suggest France because it is where the data of value actually resides, though the game publisher can easily change this location and, more importantly, such a conception would be questionable for distributed peer-to-peer architectures. A license conception might suggest the United States, though practically this would seem to over-emphasize the role that the IP creator


\textsuperscript{99} Cockfield, supra note 79, at 144.

\textsuperscript{100} \textit{Id}.

\textsuperscript{101} Cockfield, supra note 80, at 159–60.
plays in the production of virtual property, which is in some ways the antithesis of intellectual property.

On the purchaser side, there is similar uncertainty. While e-commerce may have some of the production issues noted above, the purchaser would still receive the good, service or license in a particular jurisdiction. In contrast, the purchaser of virtual property may not actually receive the property in their jurisdiction. If an Irish gamer buys virtual currency in an online game hosted in France, it isn’t clear where he has received this currency. The currency will be available to the gamer whether he logs on in Ireland or in Canada. Yet, at the same time it does not necessarily make sense to suggest that the buyer received the property in France, as he may not even be aware that the server is located in France. Moreover, the peer-to-peer architecture would undermine using the server location.

Without any simple way to conceptualize the location of production or receipt, it becomes much more difficult to locate RMT transactions. Many jurisdictions will be able to assert that some of the activity took place locally, and there seems to be no clear way to conceptually assign priority. Without the ability to locate RMT transactions, substantive tests for the corporate residency of RMT businesses will also be undermined.

3. Simultaneous Challenge of Type and Location

The simultaneous challenge posed to both the Type and Location determinations is important because international tax systems have typically responded to uncertainty in one area with reliance on the other. For example, in the early days of international tax systems, steamer ships posed a significant challenge to determining Location.\textsuperscript{102} A steamer ship might spend a few days at various ports but eighteen months at sea.\textsuperscript{103} Not only would it be impractical to apportion profits between the various ports, it would also be illogical since a large portion of the value-addition occurred internationally. The solution was to create a special, semi-arbitrary, rule for shipping profits that would source income to the country of a given ship’s registration.\textsuperscript{104} It was likely thought that, because most countries would have ships registered domestically, such a rule would be revenue neutral in the aggregate. Moreover, since shipping was readily rec-

\textsuperscript{102.} Graetz & O’Hear, supra note 63, at 1094–95.
\textsuperscript{103.} Id.
\textsuperscript{104.} Id.
ognizable and had a long history, the rule was easily applicable.

In contrast, there have been situations where the Location is quite clear but the Type is not. Ault and Bradford cite the example of Bank of America v. United States, a case that involved the question: "[I]s the granting of a letter of credit the performance of a service, the extension of credit, or something else?" In that case the trial court’s opinion looked to the substance of the transaction and decided that it primarily occurred abroad. Similarly, a United States Revenue Ruling states that, “[i]n the absence of an overriding Code provision, the main factor in determining the source of income of payments received is whether the location of the property to which the payment related or the situs of the activities that resulted in its being abroad.”

Type is essentially a shortcut for determining the Locations of transactions on an aggregate basis. Because of the difficulty involved in determining Location, Type allows for countries to readily source transactions on an overall basis. However, when Type fails, the fallback position is a factual determination of the Location of an activity. Moreover, even when Type does not fail in and of itself, many Type determinations lead to factual geographical questions that present difficulties similar to the Location determination. For example, some regimes source goods transfer income on the basis of title passage, a question that would not be clear in the RMT context. Because RMT challenges both Type and Location on a fundamental level, it is unlikely that traditional international tax systems will be able to address RMT.

4. Inadequacy of Current International Tax Systems

The inability of international tax systems to appropriately address RMT will likely lead to many instances of over- or under-taxation as countries grapple with RMT transactions. There are two reasons why this should be a cause for concern. First, as a matter of

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106. Bank of America v. United States, 680 F.2d 142, 148 (Ct. Cl. June 2, 1982). On appeal from the trial court, the court of claims was able to analogize the transactions to specific Types and thus avoided having to determine the Location of the transaction absent Type.
108. See, e.g., 26 C.F.R. § 1.861-7(c) (sourcing sales of personal property to “the place where, the rights, title, and interest of the seller in the property are transferred to the buyer”).
revenue, some countries will be undercompensated for their participation while other countries will be overcompensated. For example, if Vanuatu were to receive all of the tax revenue from the XPSales hypothetical, that would be a gross injustice to all of the other participating countries as Vanuatu played a de minimis role in the transaction. Second, the effective tax rate will either encourage or discourage RMT depending on whether it is relatively lower or higher than the tax on other domestic or international transactions. While some countries may wish to deviate from a neutral tax rate in order to encourage or discourage RMT for policy reasons, without a consistent system to address RMT they will have difficulty implementing such policies.109

III. A PROPOSED SOLUTION

This Part proposes a potential solution to taxing international RMT through a withholding system. At the outset, I should note that this solution might be impossible to realize. International tax systems are the result of piecemeal, often bilateral, political bargaining between countries.110 Some commentators have advocated for an international tax organization akin to the WTO but, as of yet, none have emerged.111 The closest is the OECD, which issues model treaties that nations consistently deviate from.112 As such, any practical solution must be politically palatable to the major stakeholders and capable of implementation through unilateral or bilateral actions. Section A of this Part will survey the relevant claims of nations to an RMT transaction and Section B will offer a solution that seeks to balance those claims and offer an administrative structure.

A. Tax Claims on RMT

A RMT transaction can be linked to one of seven different jurisdictions, though a single jurisdiction may perform more than one role. The first four are purely physical locations: the buyer’s location, the seller’s location, the data server’s location and the sales

109. For an example of social policy directed at a mirror image of RMT, see Richard Heeks, China Bans Gold Farming!! . . . Er . . . But In Fact It Hasn’t (July 1, 2009), http://ict4dblog.wordpress.com/2009/07/01/china-bans-gold-farming-er-but-in-fact-it-hasnt/.
110. See Graetz & O’Hear, supra note 63.
111. See Cockfield, supra note 80, at 165.
112. Id.
virtual property location. The next two are conceptual in nature: the intellectual property location and the place of corporate residence. The final location, that of the financial intermediary, could be either conceptual or physical. For each location, I will survey the benefits and drawbacks from a tax perspective.

1. Buyer’s Location

The main advantage of this location is that it is convenient for the purposes of administrability. This is because purchasers of virtual property are typically residents of developed countries that have significant reporting and information gathering mechanisms in place. Moreover, buyers would lack major incentives to avoid taxation, since virtual property purchases probably do not represent a significant portion of their income. Finally, RMT businesses cannot readily shift the buyer’s location in order to avoid taxation. However, conceptually, taxing the buyer’s location is questionable. While a consumption tax may be appropriate, an income tax would need to be based on the justification that the primary economic activity took place at the buyer’s location. This is a hard argument to make since the property the buyer purchases may not be delivered locally and the financial transaction and ordering process may also not be done locally. Moreover, unless the tax is assessed via withholding, the tax will be difficult to collect from a taxpayer located abroad.

2. Seller’s Location

This location is quite tempting from a theoretical standpoint because it is the location where the seller receives the order information, processes the transaction and sends the goods. Compared to the buyer’s location, another advantage is that tax could be assessed against the entire RMT activity as a whole rather than on a country-by-country basis. Unfortunately, the seller’s location is very easy to shift in the context of RMT. While the tax system has traditionally battled this type of activity using transfer-pricing restrictions, such measures are unlikely to work in the context of RMT. It would be very difficult to distinguish legitimate in-game transfers by players from intra-company trading. Additionally, because RMT sales activity requires very little infrastructure or labor input, it could easily be shifted to low tax jurisdictions.
3. Server’s Location

This location is theoretically the most appealing, but administratively difficult to implement. The server’s location is where the data of value is stored and where the virtual world that gives rise to property exists. Moreover, the server location is not subject to the control of the buyer nor the seller, thus preventing income shifting to low tax jurisdictions. However, there are three difficulties with taxing at the server location. First, it would be administratively very complex for the country where the server is located to keep track of RMT. Second, even if the country were able to track RMT, it would have difficulty enforcing the tax unless it could somehow obtain in rem jurisdiction against the virtual property of the buyer or the inventory of the seller. Third, if a peer-to-peer architecture is used, then there will be no relevant server location, as the valuable data would exist across many different jurisdictions.

4. Sales Website Location

This location shares some of the advantages of using the seller’s physical location because the sales activity will electronically occur at that location. Similarly, tax on the entire business activity could be assessed in one jurisdiction. However, even more so than the seller’s physical location, the website location is extremely easy to shift. Thus, RMT traders would simply move their websites to low tax jurisdictions.

5. Intellectual Property Location

This location or the publication location might have a conceptual claim to tax revenues because it is the intellectual property that gives rise to the virtual world where virtual property can be created. In a sense the intellectual property provides the market. Moreover, if a license conception is used for virtual property then the license transfer could be said to occur at the location of the licensor. However, this claim would suffer from the difficulties of using the server location and, moreover, obtaining jurisdiction would be extremely difficult unless other activities related to the RMT took place in the IP or publication location.
6. Residence Taxation

Given the difficulty of geographically sourcing the transaction some countries will argue that residence-based taxation is more appropriate. If a formalistic test for residence is applied, then RMT will face little tax burden as corporations engaged in RMT could re-incorporate in low tax jurisdictions. If a less formalistic test were used, such as the primary location of business activities or the location of inventory stores, then many of the same problems of identifying the geographic location of RMT would arise.

7. Financial Intermediary

Finally, the location of the financial intermediary, either physically or conceptually, could be used to source the transaction. Because of the difficulty in conceptualizing the location of virtual property, that part of the transaction could be ignored and instead the money exchange could be treated as the primary aspect of the transaction. This solution would be administratively simple and easy to enforce because the financial intermediary should have access to the relevant accounts and information. However, this risks pushing RMT underground or through financial intermediaries in low tax jurisdictions.

B. One Solution Among Many

On an objective level, the seven possible claims to taxing RMT have legitimate foundations but they are also plagued by many problems. It is doubtful that countries, from a subjective prospective of revenue maximization, will agree to any one method of sourcing. Instead, the solution I propose identifies two physical locations, which reflect the two major political forces that will most likely try to capture tax revenue on RMT.

On the one side are countries that typically create the IP for virtual worlds and buy virtual property. In a typical transaction, the United States will be the IP producer, the server location and the buyer’s location. While that is not always true, these countries will probably be able to compromise amongst themselves as to which measure is the most preferable. On the other side will be the countries where the producers and sellers of virtual property are located. In contrast with the countries where IP is created, these are often countries where the cost of labor is relatively low. They have a strong claim to the tax revenue because the majority of the produc-
tion, management and sales activity would take place within their borders. As such, I think the best solution will be to split the revenue between these two country groups on a fifty-fifty basis.

In order to accomplish this fifty-fifty split, three things will need to happen: the RMT transactions will need to be identified, the tax revenue collected and the tax revenue distributed. The first two steps will pose significant difficulty because of the underground nature of RMT. It will probably be easiest to identify transactions and collect revenue through a withholding mechanism.

Countries would need to pass laws providing that any resident who purchases virtual property through RMT must withhold a fixed percentage of the purchase price. The percentage could be determined by finding the average of effective corporate tax rates. The withholder would then be liable to their revenue service for the tax amount. To facilitate this process and ease the burden on consumers, financial intermediaries could offer to perform this withholding function. The withholding mechanism will place significant pressure on production and sales countries to alleviate double taxation. The ideal result would be that countries would enter into bilateral or multilateral treaties, with an agreement that withheld taxes on RMT would be split proportionally (e.g., fifty-fifty) between the location of the IP and the country where the primary sales activity occurred.

CONCLUSION

International tax systems have faced a number of challenges since their inception. The concept of source was always questionable and is becoming more and more arbitrary as the world economy further integrates. In contrast, residence has always had a tenuous connection to corporations and even individuals are beginning to lose national identities with increased travel. Yet, for a variety of reasons the major international actors have resisted deviation from traditional international tax principles. As such, while it may not be theoretically satisfying, tax systems will likely develop a patchwork framework to deal with RMT.

Nevertheless, there are patch solutions, like the withholding framework suggested above, which will not overly deter or encourage RMT. It is important for countries developing RMT tax policy to consider the unique nature of RMT and avoid attempts to analogize it to traditional business models as those analogies will not be successful and will lead to conflict. Additionally, while RMT may not be the straw that breaks the camel’s back, it would be wise to take the
opportunity to re-evaluate the basics upon which international tax systems are founded and consider whether they will continue to be relevant.

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