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1 Introduction

1.1 INTRODUCTORY REMARKS

Today we live in what is commonly called the Information Age. This is the age of computers, mobile phones and networks, where information systems operate on both a real-time and as-needed basis. What distinguishes the Information Age from its predecessors is the dependence upon technology. Our relationship to technology has moved from instrumental to existential.

The Information Age brought a new lifestyle and a new economy. Currently, people heavily rely on the Internet and social networking sites as a connection that binds them to the world. Virtual socializing began in chat rooms and community websites, and later on expanded into more sophisticated environments: virtual worlds. Virtual worlds are persistent computer-generated environments in which participants interact with each other using avatars. These communities have experienced exponential growth in the last few years. Millions of people from all over the world visit them on a daily basis for social and entertainment purposes. Virtual worlds allow their participants to transcend their individual limitations and do things they could never do in real life.

The majority of virtual environments operate under some type of economy with in-world property and currency systems. The heart of the virtual economy is trade: to improve their virtual status, participants must acquire more and more virtual items and currency.¹ Although trade in virtual items began within the online environments, it soon expanded beyond their boundaries. Virtual items started being exchanged on Internet platforms for real money, and the game ceased to be merely a game. Many people quickly noticed that they could make real profits by farming and selling virtual items.

Some people have become famous all over the world for their transactions in virtual items. Julian Dibbel, a US journalist, reported to the Internal Revenue Service (IRS) in 2004 that his primary source of income was the acquisition, sale and exchange of virtual goods and that he earned more from it on a

1 “Virtual items” (or “virtual goods”) are intangible objects that form part of virtual worlds and can be traded in a way similar to their real equivalents. The term “virtual currency” is explained in detail in Chapter Three.

monthly basis than he had ever earned as a professional writer.² In 2006, the world learned the name of the first virtual millionaire: Ailin Gräf, a Chinese born teacher from Germany, built an online business that engaged in the development and brokerage of virtual items, and achieved a net worth of more than USD 1 million from these activities. Referred to as the “Rockefeller of the Second Life”, she made a large part of her profits by developing and selling virtual land in *Second Life*.³ Two years later, Jon Jacobs was included in the 2008 Guinness Book of Records for owning the most expensive virtual item, the Asteroid Space Resort called Club Neverdie, in the virtual world *Entropia Universe*. The virtual club located on the asteroid earned his owner USD 200,000 per year and was ultimately sold for a total of USD 635,000.⁴ The two above-mentioned examples are not unique. There are likely to be more and more people who earn thousands of dollars engaging in trade in virtual items. It is estimated that virtual worlds enable their participants to create and sell products with a total value of approximately USD 3 billion per year.⁵ These transactions would be subject to taxes in the non-virtual world, but escape taxation due to their virtual nature. If more economic activity migrates into virtual economies, more tax revenue in real economies might be lost.

Events in virtual worlds may have influence that extends well beyond virtual borders: relationships, incomes and even lives on Earth may be affected. Asia provided a number of dramatic events that drew attention to virtual world issues. A Shanghai game player stabbed to death a fellow player who secretly sold his cyber sword used in the popular online game *Legend of Mir 3*. This unfortunate incident happened after the player went to the police to report the theft, but he was told that the weapon was not real property protected by law. The killer was given a suspended death sentence.⁶

More and more virtual world participants are seeking justice through courts over stolen items or against actions of the game providers. The case *Bragg v. Linden* raised many legal questions which, when answered, could affect the entire virtual world industry. Linden Lab terminated the account of Marc Bragg and confiscated his virtual items (which he valued at around USD 5,000) due to fraud committed by the user, who subsequently filed a lawsuit to recover

2 Julian Dibbell described how he earned money from trade in virtual items and how he wanted to pay taxes on these profits in: *Play Money: Or How I Quit My Day Job and Made Millions Trading Virtual Loot* (Basic Books 2007).

3 Businessweek, *My Virtual Life* (30 Apr. 2006), available at: www.businessweek.com/stories/2006-04-30/my-virtual-life.

4 D. Bates, Internet Estate Agent Sells Virtual Nightclub on an Asteroid in Online Game for £400,000 (18 Nov. 2010), available at: www.dailymail.co.uk/sciencetech/article-1330552/Jon-Jacobs-sells-virtual-nightclub-Club-Neverdie-online-Entropia-game-400k.html.

5 V. Lehdonvirta & M. Ernkvist, *Knowledge Map of the Virtual Economy*, p. XI (2011), available at: www.infodev.org/en/Publication.1056.html.

6 BBC News, *Chinese Gamer Sentenced to Life* (8 June 2005), available at: <http://news.bbc.co.uk/2/hi/technology/4072704.stm>.

his “virtual property”. The suit was ultimately settled with a confidential agreement before the final decision was made.⁷

Initially, virtual currencies were limited to virtual worlds and used as a medium of exchange between avatars. Nowadays, they exist independently of any virtual environments, competing with real currencies. Their use is on the rise. Bitcoin,⁸ a totally decentralized crypto-currency without a central authority, grabbed the public attention as its value skyrocketed at the beginning of 2012.⁹ Interestingly, the rise in the bitcoin value coincided with the economic collapse of Cyprus. Banks failed, causing an entire country to realize that the value of their deposits was arbitrary all along. When people lose faith in financial institutions, they are willing to forgo the comfort of banking systems for the weight of mathematics and the Internet behind it. More and more merchants and organizations accept bitcoins as a means of payment. In 2013, the University of Nicosia in Cyprus developed a master degree in “digital currency” and allowed the tuition fees for this degree programme to be paid in bitcoins.¹⁰ In the five months between August and December 2013, bitcoin usage increased by over 75% (from about 1,700 transactions per hour to over 3,000) and the market value of bitcoins in circulation increased more than ten-fold (from about USD 1 billion to USD 12 billion).¹¹ More types of virtual money beyond the reach and control of any government are likely to appear in the next years. What we observe now may be a sign of what will happen in the future. The emergence of virtual currencies should be considered a totally natural development – the outcome of what happens when software and networks meet the concept of currency. As long as the Internet remains turned on, virtual currencies will operate.

The above-mentioned examples show how virtual currencies interact with real life and significantly influence non-virtual events. Due to their transnational and largely decentralized nature, they raise a number of difficult legal questions. The one especially interesting for tax scholars is whether trade in virtual items and currencies may have real tax implications.

7 C. Dougherty, *Bragg v. Linden: Virtual Property Rights Litigation*, 9 E-Commerce Law & Policy 7 (2007).

8 This thesis follows the convention established by the official Bitcoin website of capitalizing “Bitcoin” when describing the concept of Bitcoin or the entire network itself, and not capitalizing “bitcoin” when describing the bitcoin as a unit of account (often abbreviated BTC or XBT). See <http://bitcoin.org/en/vocabulary>.

9 When Bitcoin was launched in 2010, the currency had very little value (a few USD). In June 2014, the value of one “coin” exceeded USD 600. For the Bitcoin exchange rates, see <http://bitcoincharts.com/>.

10 P. Liljas, *University in Cyprus Becomes First to Accept Bitcoin Payments* (21 Nov. 2013), available at: <http://world.time.com/2013/11/21/university-in-cyprus-becomes-first-to-accept-bitcoin-payments/>.

11 See www.bitcoinwatch.com.

1.2 AIM AND SCOPE

The purpose of this thesis is to provide an analysis of tax implications that result from trade in virtual currencies and items. The analysis is restricted to taxes directly influenced by virtual trade.¹² These are: personal income taxes on profits derived from virtual trade and indirect consumption taxes on transactions in virtual items and currencies. The former are focused on the person earning the income, whereas the latter – on the transaction. They vary with respect to the point in time when an increase in the potential for private consumption is taxed: upon accrual or upon transformation into actual consumption.¹³ This distinction is essential when formulating tax policies.

The thesis investigates the following research questions:

- 1) *How income from virtual trade and transactions involving virtual currencies and items should be taxed (the model scenario)?*
- 2) *How income from virtual trade and transactions involving virtual currencies and items are actually taxed under the existing tax legislation (the actual scenario)?*
- 3) *How the actual scenario can be aligned with the model scenario?*

The answer to the first question is provided in Chapter Four (for personal income taxation) and Chapter Seven (for indirect taxation), where the characteristics of a model system for taxing income from virtual trade and transactions involving virtual currencies are described. The model system is based on the general principles of taxation: equity, neutrality, certainty and administrative feasibility. Administrative concerns are an important criterion since a tax system must be capable of practical operation. The second research question requires an examination of the existing tax systems, which is undertaken in Chapter Five (for personal income taxation) and Chapter Eight (for indirect taxation). Based on the comparison of the existing scenario with the model one, recommendations are made in Chapter Six (for income taxation) and Chapter Nine (for indirect taxation).¹⁴

The computer and the Internet created a new medium to facilitate commercial transactions – the virtual marketplace. This unique trade platform created new opportunities for value and profit generation. Exploring the reach of tax laws into the virtual marketplace provides an opportunity to review

12 The term „virtual trade“ or „virtual transactions“ refers to all dealings involving virtual currency and items. Virtual trade may give rise to real or virtual income. The former may be generated through sale of bitcoins for USD or EUR, whereas the latter – through the sale of goods for bitcoins. *See also* section 4.1. *Introductory remarks*.

13 A. Schenk & O. Oldman, *Value Added Tax*, p. 8 (Cambridge University Press 2007).

14 For more information about the thesis structure, *see* section 1.3. *Outline*.

some of the basic doctrines of substantive tax law (for example, the concept of income and the destination principle) and to re-explore the connections of those legal doctrines to practicalities of modern tax administration. As trade in virtual currencies represents an extreme version of electronic commerce, the application of the existing rules to this phenomenon allows the evaluation of the flexibility of those rules and their potential to capture even more sophisticated (yet unknown) technological developments. My perspective is both an interpretation *de lege lata* as well as a discussion of tax policy, an examination *de lege ferenda*.¹⁵ This thesis is about traditional tax definitions that are embedded in the law and their ability (or inability) to encompass income generated by new types of economic activity in a manner that maintains both their theoretical justification and their practical implementation. Modern technology provides opportunities for income generation in ways that were considered mere science fiction back in the days in which the fundamental tax concepts were developed. Virtual trade carried out in borderless and anonymous settings challenges the current tax law to its extremities.

The thesis is focused on individuals visiting virtual worlds and trading in virtual currency since it is individuals who first started producing virtual currency and exchanging it. Individuals face different tax problems from those that virtual world operators (companies) do. Income generated by the latter from sales of software, licenses and subscription fees is received in real currency and calculated according to the general rules of corporate income tax law. Operators are mainly concerned with issues such as the qualification of equipment as permanent establishment and the corresponding profit attribution, outsourcing, cloud computing business models and the correct use of transfer prices, which have already received extensive coverage in tax literature.¹⁶

Some scholars claim that cyber world, a unique place that transcends geographical and national boundaries, may not be compatible with the existing taxation framework and try to develop new taxes for transactions taking place

15 “*De lege lata*” is a Latin expression meaning “the law as it stands”. “*De lege ferenda*” means “future law” used in the sense of “what the law should be”.

16 See, for example, H. Tappe, *Steuerliche Betriebsstätten in der “Cloud”: neuere technische Entwicklungen im Bereich des E-Commerce als Herausforderung für den ertragsteuerrechtlichen Betriebsstättenbegriff*, 20 *Internationales Steuerrecht* 22, pp. 870-874 (2011); V. Choudhary, *Electronic Commerce and Principle of Permanent Establishment under the International Taxation Law*, 37 *International Tax Journal* 4, pp. 33-57 (2011); W.M. Abdallah & A. Murtuza, *Transfer Pricing Strategies of Intangible Assets, E-commerce and International Taxation of Multinationals*, 32 *International Tax Journal* 2, pp. 5-16, 45-46 (2006); A. Bal, *Tax Implications of Cloud Computing – How Real Taxes Fit into Virtual Clouds*, 66 *Bull. Intl. Taxn.* 6 (2012); D.J. Shakow, *The Taxation of Cloud Computing and Digital Content*, 140 *Tax Notes* 333 (22 July 2013); R. Farag, *U.S. Tax Considerations for Foreign Software Companies Engaged in Cloud Commerce*, 24 *Journal of International Taxation* 12 (2013); O. Heinsen & O. Voss, *Cloud Computing under Double Tax Treaties: A German Perspective*; 40 *Intertax* 11 (2012); A. Bal, *The sky’s the limit*, 68 *Bull. Intl. Taxn.* 9 (2014).

in cyberspace.¹⁷ This thesis does not discuss any alternative forms of taxation. To preserve neutrality and prevent distortions of competition, any new tax on electronic commerce or digital economy should be applied globally. Disparities among the existing tax systems, the difficulty concerning the implementation of new taxes (for example, the financial transaction tax in the European Union) and different approaches taken by countries while concluding bilateral tax treaties show that a global consensus is extremely difficult (if not impossible) to reach. Focusing on solutions that are unlikely to be implemented would eliminate any practical value of this thesis. Moreover, the European Union, the OECD and the US Treasury consider that the best way to tackle electronic commerce is through an approach which adopts and adapts the existing principles, instead of imposing new or additional taxes.¹⁸ This view has been recently confirmed by the OECD discussion draft on taxation of the digital economy¹⁹ and the final report presented by the EU Expert Group on Taxation of the Digital Economy.²⁰

Civil and criminal law issues regarding virtual trade (legal status of virtual items, validity of contractual arrangements, criminal offences in virtual worlds and data protection law) are briefly mentioned only if it is relevant for the discussion of the main topic. Their detailed analysis is outside the scope of the thesis. Those matters are left for examination by civil and criminal law scholars.

The research into tax aspects of virtual worlds is based on qualitative methods. Apart from the general tax literature and the primary source material, the following range of information sources was consulted: scientific and non-scientific publications concerning virtual worlds and currencies, government and regulatory body publications on virtual worlds and currencies and contractual arrangements of selected virtual world operators. Finally, various Internet sources were used to capture the latest developments.

17 R. Azam, *Global Taxation of Cross Border E-commerce Income*, 31 *Virginia Tax Review*, p. 639 (2012) and *The Political Feasibility of a Global E-Commerce Tax*, 43 *University of Memphis Law Review*, p. 711 (2013), proposes to impose a global e-commerce tax on cross border e-commerce income by a new supranational institution, the Global Tax Fund, to be established by countries through an international treaty.

18 US Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (22 Nov. 1996) available at: www.treasury.gov/resource-center/tax-policy/Documents/Internet.pdf; OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce* (1998); and European Commission, *Communication on Electronic Commerce and Indirect Taxation*, COM(1998)374 final (17 June 1998).

19 OECD, *BEPS Action 1: Address the Tax Challenges of the Digital Economy* (Public Discussion Draft) (2014), available at www.oecd.org/ctp/tax-challenges-digital-economy-discussion-draft-march-2014.pdf. For more information on the BEPS project, see 1.4.3. *International organizations*.

20 Expert Group on Taxation of Digital Economy, *Report* (28 May 2014), available at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/good_governance_matters/digital/report_digital_economy.pdf.

1.3 OUTLINE

The thesis is divided in three main parts. Part One, which comprises the first three chapters, provides the background necessary to understand tax considerations discussed in Part Two and Part Three. Chapter One gives an introduction to the issues discussed in the thesis. It explains how the idea to investigate virtual worlds and currencies originated, why those phenomena are worth researching and how the research is organized. It also provides an overview of administrative guidance on the tax treatment of virtual currency issued by the tax authorities of various countries. Chapter Two sets the context in which virtual trade and virtual income generation take place. Its aim is to get the reader acquainted with some fundamental concepts that are necessary to understand the functioning of virtual worlds and currencies. Chapter Three describes the essential characteristics of virtual currencies and their growth potential. Its first part introduces the concept of virtual worlds as places that people visit not only for entertainment purposes but also for monetary reasons, and shows that substantial economic value may be derived from online activities, whereas its second part is focused on Bitcoin, given the popularity and enormous media attention received by this currency scheme.

Part Two and Part Three are concerned with income and indirect tax aspects of virtual currencies, respectively. They follow the same structure, which is determined by the research questions presented in section 1.2. The structure includes the following three steps:

- 1) Description of a model system for taxing income from virtual trade and transactions involving virtual currencies and items.
- 2) Description of the actual tax treatment of virtual currency under the laws of selected countries.
- 3) Recommendations for the alignment of the actual scenario with the model scenario.

The thesis structure is illustrated in Table 1, particularly to show the reader the parallelism of the chapters on income and indirect taxation.

Table 1: Thesis structure

	<i>Income tax</i>	<i>Indirect tax</i>
Model scenario	Chapter 4 <ul style="list-style-type: none"> · Answers the question: how income from virtual trade should be taxed · Describes the model income tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility · Is independent of country-specific characteristics 	Chapter 7 <ul style="list-style-type: none"> · Answers the question: how transactions involving virtual currencies and items should be taxed · Describes the model indirect tax system that meets the criteria of equity, neutrality, certainty and administrative feasibility · Is independent of country-specific characteristics
Actual scenario	Chapter 5 <ul style="list-style-type: none"> · Answers the question: how income from virtual trade is actually taxed under the existing tax legislation · Describes the income tax systems of the United States, United Kingdom, Germany and the Netherlands · Each country-specific chapter is organized according to the income categories (e.g. business income, miscellaneous income, capital gains) · Does not provide recommendations or suggestions for improvement 	Chapter 8 <ul style="list-style-type: none"> · Answers the question: how transactions involving virtual currencies and items are actually taxed under the existing tax legislation · Describes the indirect tax systems of the European Union and the United States · Each country-specific chapter is organized according to the structural elements of the indirect tax system (e.g. personal scope, taxable transactions, exemptions) · Does not provide recommendations or suggestions for improvement
Comparison	Chapter 6 <ul style="list-style-type: none"> · Answers the question: how the actual scenario can be aligned with the model scenario · Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems 	Chapter 9 <ul style="list-style-type: none"> · Answers the question: how the actual scenario can be aligned with the model scenario · Compares the actual scenario with the model one and makes recommendations for improvement of the existing tax systems

Part Two (Chapters Four, Five and Six) is about personal income tax. Chapter Four describes a model system for taxing income from virtual trade. First, it investigates how the concept of income has developed over years in an attempt to identify the most comprehensive income definition. This definition is subsequently adjusted, taking into account the general principles of taxation (neutrality, equity, certainty and administrative feasibility), to arrive at an income concept which is capable of practical application.

Chapter Five consists of one general, four country-specific and one international section. The general section gives an overview of the design of modern tax systems and provides the necessary background for the country-specific chapters to follow. The country-specific sections review the basic rules of income taxation in selected countries and try to apply them to income from virtual trade. The selection sample results from the distinct features of the tax systems of the countries under consideration (global or schedular nature and approaches to capital gains taxation). Each jurisdiction has its own characteristics since the implementation of the general principles of taxation can be achieved by way of alternative techniques. Thus, the answer to the question whether income from virtual trade may constitute taxable income is likely to vary from country to country. The examination begins with the United States, where "income from whatever source" is subject to tax. It continues with the United Kingdom, which uses a more restrictive income definition. Finally, the comparative analysis looks at Germany and the Netherlands, which have a conclusive set of receipts that may constitute taxable income. As trade in virtual currencies is a truly international phenomenon, it is important to consider not only tax implications within a given country but also how a given policy might affect transactions and users in cross-border situations.

Chapter Six is based on the findings from the two previous chapters. The actual scenario described in Chapter Five is compared with the model system for taxation of virtual profits presented in Chapter Four. If the actual arrangements deviate from the prescriptions of the model system, it is investigated how to remedy this mismatch.

Part Three (Chapters Seven, Eight and Nine) is about indirect taxation. Chapter Seven describes the characteristics of a model system for taxing transactions involving virtual currencies and items. Those features are identified on the basis of the general principles of taxation (neutrality, equity, certainty and administrative feasibility).

Chapter Eight describes the tax treatment of virtual transactions in the European Union and the United States, since those jurisdictions are two of the world's most important consumer markets, with a combined population of more than 800 million people. EU VAT is explained on the basis of the EU VAT legislation, making references to the national rules if necessary. As regards the United States, since there is no federal sales tax, the features common to the majority of states are discussed. Although Chapter Eight deals exclusively with the European Union and the United States, the issues that arise there

and the different approaches taken by these jurisdictions may have implications for a wide range of countries around the world which have modeled their indirect tax systems after the US or the European one and are also trying to find the best way to tax cross-border consumption in the Information Age. Chapter Eight also takes a closer look at issues surrounding cross-border transactions that take place between individuals from the European Union and the United States. It investigates whether the lack of international coordination could cause double taxation or unintentional non-taxation of virtual transactions, which would affect the competition between suppliers and lead to market distortions.

Chapter Nine draws conclusions based on the analysis in the previous chapters. The actual scenario described in Chapter Eight is compared with the model system for taxing virtual transactions presented in Chapter Seven. If the actual arrangements deviate from the prescriptions of the model system, it is investigated how to remedy this mismatch.

1.4 PREVIOUS WORK

1.4.1 Literature

Challenges faced by taxing trade in virtual items and currencies represent in many ways an extreme version of tax policy challenges discussed in the literature with regard to electronic commerce and the digital economy. In the last twenty years, a wealth of scholarship has been devoted to addressing these concerns. As the digital economy and electronic commerce continue to grow, so does the body of literature dealing with their impact on tax policy. There are numerous articles, books and doctoral theses on how to tax electronic commerce both from an indirect and direct tax perspective.²¹

Virtual worlds have aroused significant interest of the academic community in the last few years. Many contributions tried to assess their macroeconomic

21 See for example, R.L. Doernberg et al., *Electronic Commerce and Multijurisdictional Taxation* (Kluwer Law International 2001); B. Westberg, *Cross-border Taxation of E-commerce* (IBFD 2002); R.L. Doernberg & L. Hinnekens, *Electronic Commerce and International Taxation* (Kluwer Law International 1999); S. Basu, *Global Perspectives on E-commerce Taxation Law* (Aldershot Ashgate 2007); R.A. Westin, *International Taxation of Electronic Commerce* (Kluwer Law International 2007); D. Pinto, *E-commerce and Source-based Income Taxation* (IBFD 2003); P. Rendahl, *Cross-border Consumption Taxation of Digital Supplies: a Comparative Study of Double Taxation and Unintentional Non-taxation of B2C-commerce* (IBFD 2009); R.S. Avi-Yonah, *International Taxation of Electronic Commerce*, 52 Tax L. Rev., p. 507 (1997); A.J. Cockfield, *The Law and Economics of Digital Taxation: Challenges to Traditional Tax Laws and Principles*, 56 Bull. Intl Fisc. Doc. 12 (2002); C.E. McLure Jr., *Taxation of Electronic Commerce: Economic Objectives, Technological Constraints, and the Tax Laws*, 52 Tax L. Rev., p. 269 (1997).

impact²² or focused on their legal aspects (the legal status of virtual items and relationships between game operators and users).²³ The possibility of applying real taxes to virtual profits was examined in the US tax literature.²⁴ However, most of these discussions were far from complete and often addressed one potential viewpoint that could be taken. Although all authors applied the same US income tax principles, they took different approaches and arrived at different conclusions. Consensus was reached for the proposal that those who cash out their virtual profits should be subject to tax. However, the issue whether the mere receipt of virtual currency shall be a taxable event raised a vigorous academic debate. In Europe, there has been no academic research on tax issues of virtual worlds.

Virtual currencies are a relatively new research area. In the 1990s, when the Internet was still fairly new, some scholars explored ways in which the

22 See, for example, E. Castronova, *On Virtual Economies* CESifo Working Paper No. 752 (July 2002); and *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier*, CESifo Working Paper Series No. 618 (2001).

23 See, for example, M. Walpole & J. Gray, *Taxing Virtually Everything: Cyberspace Profits, Property Law And Taxation Liability*, 39 Australian Tax Review 1, p. 39 (2010); J. Fairfield, *Virtual Property*, 85 Boston University Law Review, p. 1047 (2005); K. Hunt, *This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights*, 9 Texas Review of Entertainment and Sports Law, p. 141 (2007); O. Habel, *Eine Welt ist nicht genug – virtuelle Welten im Rechtsleben*, Multimedia und Recht 2, pp. 71–77 (2008); H. Krassmann, *Onlinespielrecht – Spielweise für Juristen*, Multimedia und Recht 6, pp. 351–357 (2006); P. Klickermann, *Virtuelle Welte ohne Rechtsansprüche?* Multimedia und Recht 12, pp. 766–769 (2007); S. Rippert & K. Weimer, *Rechtsbeziehungen in der virtuellen Welt*, Zeitschrift für Urheber- und Medienrecht 4, pp. 272–281 (2007); T. Büchner, *Die rechtlichen Grundlagen der Übertragung virtueller Güter* (Nomos Verlagsgesellschaft 2011); M. Berberich, *Virtuelles Eigentum* (Mohr Siebeck 2010); A. Lober & O. Weber, *Money for nothing? Der Handel mit virtuellen Gegenständen und Charakteren*, Multimedia und Recht 10, pp. 653–660 (2005); A. Cabasso, *Piercing Pennoyer with the Sword of a Thousand Truths: Jurisdictional Issues in the Virtual World*, 22 Fordham Intellectual Property Media & Entertainment Legal Journal, p. 383 (2011); R. Vacca, *Viewing Virtual Property Ownership through the Lens of Innovation*, 76 Tennessee Law Review, p. 33 (2008); F.G. Lastowka & D. Hunter, *The Laws of the Virtual Worlds*, University of Pennsylvania Law School, Public Law and Legal Theory Research Paper Series Research Paper No. 26 (May 2003); S.K. Lowry, *Property Rights in Virtual Reality: All's Fair in Life and Warcraft?* 15 Texas Wesleyan Law Review, p. 109 (2008–2009); T.T. Ochoa, *Who Owns an Avatar? Copyright, Creativity, and Virtual Worlds*, 14 Vanderbilt J. of Ent. & Tech. Law, p. 959 (2011–2012); M.H. Passman, *Transactions of Virtual Items in Virtual Worlds*, 18 Albany Law Journal of Science & Technology, p. 259 (2008); N. Volanis, *Legal and policy issues of virtual property*, 3 International Journal of Web Based Communities 3, p. 332 (2007); T. Westbrook, *Owned: Finding A Place for Virtual World Property Rights*, Michigan State Law Review, p. 779 (2006).

24 See, for example, T. Seto, *When a Game is only a Game?: The Taxation of Virtual Worlds*, Loyola-LA Legal Studies Paper No. 2008-24 (2008); L. Lederman, *Stranger than Fiction: Taxing Virtual Worlds*, 82 New York University Law Review, p. 1620 (2007); B. Camp, *The Play's the Thing: A Theory of Taxing Virtual Worlds*, 59 Hastings Law Journal 1 (2007); A. Chodorow, *Ability to Pay and The Taxation of Virtual Income*, 75 Tennessee Law Review, p. 695 (2008); S. Chung, *Real Taxation of Virtual Commerce*, 28 Virginia Tax Review 3 (2008). For taxation of income from virtual worlds in Australia, see Walpole & Gray, *supra* n. 23.

Internet would change the way money is used: instead of carrying around paper bills or metal coins, people would use digital currency stored on a computer and transferred via the Internet.²⁵ As the newness of the Internet began to wear off, so did scholars' interest in its potential to generate new forms of currency. However, the past couple of years have seen more intensive research work in this field, mainly due to the popularity of Bitcoin. There is a wide range of scientific papers on the technical operation of decentralized currencies,²⁶ their illicit use,²⁷ as well as their social and behavioral impact.²⁸ However, only very few contributions have touched upon their legal²⁹ and tax³⁰ aspects so far.

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- 25 K.L. Macintosh, *How to Encourage Global Electronic Commerce: The Case for Private Currencies on the Internet*, 11 *Harvard Journal of Law and Technology*, p. 733 (1998).
- 26 See, for example, S. Barber, X. Boyen, E. Shi & E. Uzun, *Bitter to Better – How to Make Bitcoin a Better Currency*, in *Financial Cryptography and Data Security*, pp. 399-414 (Springer 2012); S. Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2009), available at: <http://bitcoin.org/bitcoin.pdf>; J.A. Bergstra & K. de Leeuw, *Bitcoin and Beyond: Exclusively Informational Money* (2013), available at: <http://arxiv.org/abs/1304.4758>; J.A. Bergstra, *Formaleuros, Formalbitcoins, and Virtual Monies* (2013), available at: <http://arxiv.org/abs/1008.0616>; F. Reid & M. Harrigan, *An Analysis of Anonymity in the Bitcoin System* (2012), available at: <http://arxiv.org/abs/1107.4524>; C. Sorge & A. Krohn-Grimberghe, *Bitcoin: Eine erste Einordnung*, *Danteschutz und Datensicherheit* 7 (2012).
- 27 See, for example, Federal Bureau of Investigation (FBI), *Bitcoin Virtual Currency: Unique Features Present Distinct Challenges for Deterring Illicit Activity* (24 Apr. 2012); R. Stokes, *Virtual Money Laundering: the Case of Bitcoin and the Linden Dollar*, 21 *Information & Communications Technology Law* 3 (2012); D. Birch, *Virtual Money: Money Laundering in Virtual Worlds: Risks and Reality*, 9 *E-Finance & Payments Law and Policy* 5 (2007).
- 28 See, for example, European Central Bank (ECB), *Virtual Currency Schemes* (Oct. 2012); Y. Wang & S. Mainwaring, *Human–Currency Interaction: Learning from Virtual Currency Use in China*, *Proceedings of the 26th International Conference on Human Factors in Computing Systems*, Florence, Italy, April 5–10, pp. 25–28 (ACM Press 2008); Y. Guo & S. Barnes, *Why People Buy Virtual Items in Virtual Worlds with Real Money*, 38 *ACM SIGMIS Database* 4, pp. 69–76 (2007); B. Maurer, T.C. Nelms & L. Schwarz, *“When Perhaps the Real Problem Is Money Itself”: The Practical Materiality of Bitcoin*, 23 *Social Semiotics* 2 (2013).
- 29 R. Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 *Hastings Science & Technology Law Journal*, p. 160 (2011); Sorge & Krohn-Grimberghe, *supra* n. 26.
- 30 D.D. Stewart & S.S. Johnston, *Digital Currency: A New Worry for Tax Administrators?* *Tax Notes* (29 Oct. 2012); Cryptocurrency Legal Advocacy Group Inc., *Staying between the Lines: A Survey of U.S. Income Taxation and its Ramifications on Cryptocurrencies* (15 Apr. 2012); P. Eckert, *Steuerliche Betrachtung elektronischer Zahlungsmittel am Beispiel sog. Bitcoin-Geschäfte*, *Der Betrieb* 38 (2013); O. Marian, *Are Cryptocurrencies Super Tax Havens?* 112 *Michigan Law Review* (First Impressions), p. 38 (2013); T. Mayer, *A Lawyer’s Take on Bitcoin and Taxes* (Premier Ark 2012); M. Lowy & M. Abraham, *Taxation of Virtual Currency*, *Tax Notes Today* 219-10 (13 Nov. 2013); A. Bal, *Stateless Virtual Currency in the Tax System*, 53 *European Taxation* 7 (2013).

1.4.2 Governments and legislators

1.4.2.1 *The United States*

The question whether and to what extent income from virtual transactions should be subject to tax has received a lot of attention in the United States. Due to potentially significant revenue losses resulting from non-payment of tax on income from transactions in virtual worlds, the Joint Economic Committee of Congress launched an investigation into the public policy considerations raised by virtual economies in 2006. The majority of the Committee expressed the opinion that the government should not tax receipts and profits in virtual currency. Jim Saxton, a Republican from New Jersey and the Ranking Member of the Joint Economic Committee, recognized the complexity of the issue by stating that “clearly, virtual economies represent an area where technology has outpaced the law.”³¹

In its 2008 Annual Report to Congress, the US Taxpayer Advocate concluded that transactions involving virtual worlds should be subject to tax because “where there are economic profits, there is likely to be tax due from someone”.³² This report suggested a further more in-depth investigation of virtual worlds and promulgation of administrative rules on that problem even if it is clarified that in-world transaction are not taxable.³³ In response, the Internal Revenue Service (IRS) posted the following guidelines on its website:³⁴

‘The IRS has provided guidance on the tax treatment of bartering, gambling, business and hobby income – issues that are similar to activities in online gaming worlds.

In general, you can receive income in the form of money, property, or services. If you receive more income from the virtual world than you spend, you may be required to report the gain as taxable income. IRS guidance also applies when you spend more in a virtual world than you receive, you generally cannot claim a loss on an income tax return.’

These guidelines are supplemented by links to more detailed explanations on the tax treatment of barter transactions, hobby income, gambling winnings, business income and online auctions.

31 Joint Economic Committee, *Virtual Economies Need Clarification, Not More Taxes*, Press Release of 17 Oct. 2006, available at www.jec.senate.gov/republicans/public/?a=Files.Serve&File_id=08e6fa84-ee4f-4267-9f47-ad0ad33a072d.

32 National Taxpayer Advocate, *2008 Annual Report to Congress*, p. 217, available at: www.irs.gov/pub/irs-utl/08_tas_arc_intro_toc_msp.pdf.

33 *Id.*, at p. 225.

34 IRS, *Tax consequences of virtual world transactions*, available at: www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Tax-Consequences-of-Virtual-World-Transactions.

In its 2013 Annual Report to Congress, the US Taxpayer Advocate considered need to issue guidance addressing the tax treatment of virtual currencies to be one of the most serious problems facing the IRS.³⁵ This report noted that the use of virtual currencies is growing and that it is the government's responsibility to inform the public about the rules they are required to follow. The National Taxpayer Advocate recommended that the IRS answer, *inter alia*, the following questions: when receiving or using virtual currency will trigger gains or losses, whether these gains will be taxed as ordinary income or as capital gains and what information reporting, withholding and recordkeeping requirements apply to digital currency transactions.

In March 2013, another department of the US Treasury, the Financial Crimes Enforcement Network (FinCEN),³⁶ issued interpretive guidance clarifying some obligations of persons creating, obtaining, distributing, exchanging, accepting or transmitting virtual currencies.³⁷ Such persons are required to be registered as "money transmitters" with the FinCEN under the regulations relating to money-services businesses. The FinCEN guidance does not discuss the tax treatment of virtual currency transactions.

In May 2013, the Government Accountability Office (GAO) published a report exploring potential tax compliance risks associated with virtual currencies.³⁸ The GAO recommended that IRS find relatively low-cost ways to provide information to taxpayers on various matters regarding virtual currencies. In commenting on a draft of this report, the IRS agreed to implement this recommendation.³⁹

Finally, on 25 March 2014, the IRS issued a notice containing 16 questions and answers on various aspects of convertible virtual currencies.⁴⁰ According to this notice, virtual currency is treated as property (and not as a currency) for US federal tax purposes. General tax principles that apply to property transactions apply to transactions using virtual currency. A taxpayer who mines or receives virtual currency as payment for goods or services must include the fair market value of the virtual currency in computing gross income. A person who settles payments made in virtual currency on behalf

35 National Taxpayer Advocate, *2013 Annual Report to Congress*, p. 249, available at: <http://www.taxpayeradvocate.irs.gov/userfiles/file/2013FullReport/DIGITAL-CURRENCY-The-IRS-Should-Issue-Guidance-to-Assist-Users-of-Digital-Currency.pdf>.

36 FinCEN is a bureau within the Treasury Department. It serves as the Financial Intelligence Unit of the United States and is responsible for combating money laundering and other financial crimes.

37 FinCEN, *Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies* (18 March 2013), FIN-2013-G001.

38 GAO, *Report to the Committee on Finance, U.S. Senate. Virtual Economies and Currencies. Additional IRS Guidance Could Reduce Tax Compliance Risks* (May 2013).

39 Letter from Steven T. Miller, Deputy Comm'r for Servs. and Enforcement, IRS, to James R. White, US GAO (3 May 2013), reprinted in the GAO report, *supra* n. 38.

40 IRS, *Virtual Currency Guidance*, Notice 2014-21 (25 Mar. 2014), available at: <http://www.irs.gov/uac/Newsroom/IRS-Virtual-Currency-Guidance>.

of merchants that accept virtual currency from their customers may be subject to the reporting requirements for third party settlement organizations. This notice clearly demonstrates that tax authorities are able to respond to innovations in the digital marketplace.

1.4.2.2 European countries

The Dutch Finance Ministry (*Ministerie van Financiën*) presented its opinion on Bitcoin in a letter of 10 April 2013.⁴¹ According to its view, Bitcoin cannot be regarded as legal tender since it lacks central supervision and stability. Neither can it be treated as electronic money or financial product. The letter also mentioned that taxpayers earning their profits in bitcoins are subject to the general income tax rules and bitcoin transactions are governed by the general VAT rules.

On 19 December 2013, the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, BaFin) issued a statement explaining the status of Bitcoin for the purposes of the German Banking Act (*Gesetz über das Kreditwesen*) and the risks of using this virtual currency.⁴² The BaFin recognizes bitcoins as financial instruments that fall into the category “units of account” and are comparable to foreign exchange accounting units. Although Bitcoin does not have legal tender status, it is similar to private or regional money (i.e. it can be used in transactions on the basis of legal agreements of private law). The BaFin statement does not say anything about tax consequences of transactions involving virtual currencies.

In November 2013, the Norwegian Directorate of Taxation (*Skatteetaten*) published a statement explaining that Bitcoin is an asset (not a currency) and income tax can be charged on gains from the sale of bitcoins. For VAT purposes, supplies of bitcoins constitute taxable supplies of electronic services. Since Bitcoin does not have the status of a legal tender, the exemption for financial services cannot apply.⁴³

The UK tax authorities (HM Revenue and Customs, HMRC) set out their position on the tax treatment of income received from activities involving

41 Dutch Finance Ministry (*Ministerie van Financiën*), *Antwoord van de Minister van Financiën op vragen van het lid Nijboer (PvdA) aan de minister van Financiën over de opkomst van de Bitcoin als digitale betaaleenheid* (ingezonden 10 april 2013).

42 BaFin, *Bitcoins: Aufsichtliche Bewertung und Risiken für Nutzer* (19 Dec. 2013), available at: http://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Fachartikel/2014/fa_bj_1401_bitcoins.html.

43 Norwegian Tax Administration (*Skatteetaten*), *Bruk av bitcoins – skatte- og avgiftsmessige konsekvenser* (11 Nov. 2013), available at: <http://www.skatteetaten.no/no/Radgiver/Rettskilder/Uttalelser/Prinsipputtalelser/Bruk-av-bitcoins--skatte--og-avgiftsmessige-konsekvenser/>.

bitcoins and other similar crypto-currencies in Brief 09/14 of 3 March 2014.⁴⁴ The Brief states that such income is subject to the general rules of income tax and capital gains tax. The question whether any profit from bitcoin transactions is taxable must be answered on the basis of the individual facts of each case, taking into account the relevant legislation and case law. For VAT purposes, the HMRC is of the opinion that mining is outside the VAT scope, exchanges of bitcoins into traditional currencies are exempt and supplies of goods and services for bitcoins are subject to VAT under the general rules. The HMRC observed that, given the evolutionary nature of crypto-currencies, the position outlined in Brief 09/14 is provisional and pending further developments, especially in respect of EU VAT.

On 25 March 2014, the Danish tax authorities (SKAT)⁴⁵ published a ruling on the tax treatment of Bitcoin. The ruling was issued in response to a taxpayer's request on whether he could use the exchange rates posted on the then-operating website Mt. Gox for the purposes of calculating his income tax and whether changes in the value of accumulated bitcoins due to exchange rate fluctuations had any tax consequences. The SKAT observed that Bitcoin cannot be regarded as a currency (legal tender) since it is not subject to regulation by a central bank and cannot be withdrawn from circulation. Consequently, neither the Danish tax return nor invoices can use values expressed in Bitcoin. The SKAT ruled that profits from casual bitcoin trading are not subject to tax and the corresponding losses cannot be deducted. Taxpayers who trade in bitcoins in the ordinary course of business are subject to the general rules (profits are taxable and losses are deductible). However, changes in the value of accumulated bitcoins due to exchange rate fluctuations should not have any tax consequences.

In March 2014, the Estonian Tax and Customs Board (*Maksu- ja Tolliamet*) presented its views on the taxation of bitcoins.⁴⁶ In its opinion, Bitcoin is neither electronic currency nor a security but property, the alienation and exchange of which may give rise to capital gains. Income from trading in bitcoins is taxed as business income that, in addition to individual income tax, is also subject to social security contributions. Bitcoin transactions are subject to the standard VAT rate. They cannot benefit from the exemption for financial services since such exemption does not apply to the provision of services of alternative means of payment.

44 HMRC, *Brief 09/14: Tax Treatment of Activities Involving Bitcoin and Other Similar Crypto-currencies* (3 Mar. 2014). Previously, UK tax authorities classified Bitcoin as a taxable voucher.

45 Danish Tax Administration (SKAT), *Bitcoins, ikke erhvervsmaessig begrundet, anset for saerskilt virksomhed* (25 Mar. 2014), available at: www.skat.dk/skat.aspx?oId=2156173&vId=0.

46 Estonian Tax and Customs Board (*Maksu- ja Tolliamet*), *Maksustamine Bitcoin'idega kauplemisel* (Mar. 2014), available at: <http://www.emta.ee/index.php?id=35227&highlight=bitcoin>.

The Finnish Tax Authority (*Vero Skatt*)⁴⁷ clarified the treatment of Bitcoin for income tax purposes in its notice issued on 28 August 2013. This Notice is quite comprehensive and provides several numerical examples showing how to calculate taxable income in bitcoin transactions. In the view of the *Vero Skatt*, profits from sales of bitcoins for traditional currency may be taxed as capital gains. The value of bitcoins generated through mining is also subject to income tax. The *Vero Skatt* considers Bitcoin neither a traditional currency (legal tender) nor a security.

On 23 December 2013, the Slovenian Ministry of Finance (*Davčna uprava Republike Slovenije*) issued a formal opinion about the status of Bitcoin and other virtual currencies.⁴⁸ The opinion states that Bitcoin is neither a currency nor a financial instrument under Slovenian law. Profits from both sales of bitcoins and bitcoin mining are subject to tax. According to the Ministry of Finance, the existing legislative framework does not contain provisions applicable to businesses involved in bitcoin trading.

On 11 July 2014, the French tax administration (*La Direction générale des Finances publiques*) issued a statement on the tax treatment of bitcoins.⁴⁹ According to this statement, gains from the sale of virtual currency are subject to individual income tax as professional income (if the activity is carried out on a sporadic basis) or business income (if the activity is carried out on a regular basis). In addition, virtual currency stored electronically is subject to net wealth tax and must be included in the annual net wealth tax declaration. The statement does not touch upon VAT aspects of bitcoin transactions.

Given the differing opinions of the VAT treatment of bitcoin transactions, it is not surprising that on 2 June 2014 the Court of Justice of the European Union (ECJ) was asked to clarify the matter.⁵⁰ The ECJ was called upon to decide whether transactions between virtual and traditional currencies can be classified as services for EU VAT purposes, and if so, whether they are exempt. The referral results from a dispute between David Hedqvist, who wanted to start selling bitcoins on his website, and the Swedish tax authorities, which had not provided guidance on the VAT treatment of bitcoins by that time. The ECJ decision is expected to remove uncertainties surrounding the

47 Finnish Tax Administration (*Vero Skatt*), *Inkomstbeskattning av virtuella valutor* (28 Aug. 2013), available at: [https://www.vero.fi/sv-FI/Detaljerade_skatteanvisningar/Inkomstbeskattning_av_personkunder/Inkomstbeskattning_av_virtuella_valutor\(28454\)](https://www.vero.fi/sv-FI/Detaljerade_skatteanvisningar/Inkomstbeskattning_av_personkunder/Inkomstbeskattning_av_virtuella_valutor(28454)).

48 Slovenian Ministry of Finance (*Davčna uprava Republike Slovenije*), *Davčna obravnava poslovanja z virtualno valuto po zdoh-2 in zddpo-2* (23 Dec. 2012), available at: www.durs.gov.si/si/davki_predpisi_in_pojasnila/dohodnina_pojasnila/dohodek_iz_kapitala/dobicek_iz_kapitala/vrednostni_papirji_in_delezi_v_gospodarskih_druzbah_zadrugah_in_drugih_oblikah_organiziranja_ter_investicijski_kuponi/davcna_obravnavna_poslovanja_z_virtualno_valuto_po_zdoh_2_in_zddpo_2/.

49 French Tax Administration (*La Direction générale des Finances publiques*), *Régime fiscal applicable aux bitcoins* (11 July 2014), available at: <http://bofip.impots.gouv.fr/bofip/9515-PGP?branch=2>.

50 Case C-264/14, *Skatteverket v. David Hedqvist*.

status of Bitcoin for VAT purposes and to ensure uniform VAT treatment of this currency scheme in the European Union.

1.4.2.3 Other countries

Asian countries were the first ones to issue legal rules on trade in virtual currency.⁵¹ In Japan, the Payment Service Act (PSA) 2009, which regulates payment and fund transfer services, also applies to services where values exist only on the server. It prohibits cash-out and refunds of prepaid money (except where the operator abolishes the service or the amount to be refunded is very small) and obliges all virtual currency issuers to register. Non-registered operators are prohibited from soliciting Japanese residents to use their service.

The Chinese government has issued several regulations on virtual currency transactions.⁵² In September 2008, a 20% tax on income generated from trade in virtual currencies was imposed. However, it was difficult to enforce since the trade usually occurs between avatars and is difficult to trace. In June 2009, a circular tightening the administration of virtual currency was issued. It prohibits one entity from providing both a virtual currency issuing service and an exchange market platform for virtual currency transactions among users, and limits the use of virtual currency to trade in virtual goods and services only for the original issuer. The purpose of this restriction is to reduce the possible impact of the rapidly growing online gaming market on China's real financial system. Moreover, game operators may provide virtual currency to users only in exchange for real money and at a reported price. This means that a game operator cannot give virtual currency as a prize for in-game contests or as a benefit. When a game operator wants to change the exchange rate, including promotional discounts, it must file an application with the competent authority. The circular also obliges operators of platforms that exchange virtual currency to register the identity of users and their bank account numbers.⁵³

On 3 December 2013, the Central Bank of China and four other central government ministries and commissions jointly issued the Notice on Pre-

51 The information on Asian countries is based on: T. Nakazaki, *Real World Excessive Regulations Might Kill Economic Transactions in Virtual Worlds*, *Journal of Internet Law*, pp. 3-5 (June 2011).

52 The example of China shows that governments are afraid of the impact of virtual money on their countries' financial systems. A virtual currency Q-coin, introduced by a telecom company for the purchase of its goods and services, started being used on a larger scale. As the amount of traded Q-coins reached several billion yuan in one year, the Chinese authorities decided to ban the use of this currency in trade in real goods in order to limit its possible impact on the financial system. See ECB, *supra* n. 28, at sec. 4.1.

53 Nakazaki, *supra* n. 51, at p. 5.

cautions against the Risks of Bitcoins.⁵⁴ Defining Bitcoin as a special “virtual commodity”, the notice said that Bitcoin is not a currency and should not be circulated and used in the market as a currency. Banks and payment institutions in China are prohibited from dealing in bitcoins and from using Bitcoin to price goods and services. The Notice also required strengthening the oversight of websites providing bitcoin registration, trading and other services, and warned about the risks of using the Bitcoin system for money laundering purposes.

In South Korea, selling virtual goods obtained through cybercrime or through exploitation of security holes (for example, by automated bot characters) is prohibited by the Game Industry Promotion Act 2006 and subject to fines and imprisonment. Selling virtual objects obtained in the ordinary course of the game is not illegal, but may be contractually prohibited by the game operator.⁵⁵

The Inland Revenue Authority of Singapore (IRAS) explained its position on the treatment of bitcoin transactions for goods and services tax (GST) purposes. In its view, virtual currencies do not constitute money, currency or goods but services and do not qualify for GST exemption. GST-registered businesses selling bitcoins need to charge GST on those sales, except for sales to a customer outside Singapore. If virtual currencies are used to pay for goods or services, the transaction will be regarded as barter trade. As a concession, if taxpayers use virtual currencies to buy virtual goods or services within the gaming world, they need not charge GST until those virtual goods and services are exchanged for real monies, goods or services.⁵⁶

In April 2013, the Canada Revenue Agency (CRA) reportedly announced that bitcoin users have to pay tax on transactions in this digital currency. According to the CRA, different rules apply depending on whether bitcoins are used as money to purchase goods and services or whether they are bought and sold for speculative purposes. Rules on barter transaction apply in the former case, while the latter is governed by provisions on trade in securities.⁵⁷

The Brazilian tax authority (*Receita Federal*) reportedly does not consider Bitcoin a currency.⁵⁸ According to various news sources, the *Receita Federal* has announced that taxpayers who sell bitcoins in a value of over BRL 35,000 will have to pay a 15% capital gains tax and those who possess more than

54 An unofficial translation of the Notice is available at: <https://vip.btcchina.com/page/bocnotice2013>.

55 Nakazaki, *supra* n. 51, at p. 6.

56 IRAS, *GST treatment for e-Commerce transactions* (2014), available at: http://www.iras.gov.sg/irashome/page04.aspx?id=2276#sale_of_virtual_currency.

57 CBC News, *Revenue Canada Says BitCoins Aren't Tax Exempt* (26 Apr. 2013), available at: <http://www.cbc.ca/news/business/story/2013/04/26/business-bitcoin-tax.html>.

58 See K. Rapoza, *Brazil Follows IRS, Declares Bitcoin Gains Taxable* (7 Apr. 2014), available at: www.forbes.com/sites/kenrapoza/2014/04/07/brazil-follows-irs-declares-bitcoin-gains-taxable/.

BRL 1,000 in digital currency holdings must file annual account declarations. Neither the Brazilian government nor the Brazilian Central Bank is planning to issue special regulations on virtual currencies unless those currencies become frequently used in transactions.

On 20 August 2014, the Australian Taxation Office (ATO) issued guidance on the tax treatment of Bitcoin and other crypto-currencies.⁵⁹ The ATO's view is that Bitcoin is neither money nor a foreign currency.

Under the guidance paper, bitcoin transactions are treated like barter transactions. Generally, there will be no income tax or goods and services tax (GST) implications for individuals if they are not in business or carrying on an enterprise and they pay for goods or services in bitcoins. Where an individual uses bitcoin to purchase goods or services for personal use or consumption, any capital gain or loss from disposal of the bitcoins will be disregarded as a personal use asset provided the cost of the bitcoins is AUD 10,000 or less. Individuals who use bitcoins as an investment may be subject to capital gains tax rules when they dispose of it.

Businesses will need to record the value of bitcoin transactions as a part of their ordinary income. Their bitcoins are trading stock that must be recorded at the end of each income year. For taxpayers that are in the business of mining bitcoins, any income that they derive from the transfer of the mined bitcoins to a third party must be included in their assessable income. Any expenses incurred in respect to the mining activity are allowed as a deduction.

Businesses must charge GST when they supply bitcoins and may be subject to GST when receiving bitcoins in return for goods and services. The supply of bitcoins is not a financial supply for goods and services tax purposes. Bitcoin is, however, an asset for capital gains tax purposes.

Record-keeping requirements for bitcoin transactions are similar to those for other transactions. Where there may be a taxation consequence, people should keep records of: the date of the transaction, the amount in AUD, the purpose of the transaction and the identity of the other party (even if it is just the bitcoin address).

The events described above are only examples of governmental responses to Bitcoin. As the virtual currency climbs in popularity and value, there will be more and more need to clarify its legal status and tax treatment.

59 Australian Taxation Office (ATO), *Tax treatment of crypto-currencies in Australia – specifically bitcoin* (20 Aug. 2014), available at: <https://www.ato.gov.au/General/Gen/Tax-treatment-of-crypto-currencies-in-Australia---specifically-bitcoin/>.

1.4.3 International organizations

1.4.3.1 OECD

The international debate on tax issues arising from electronic commerce was largely driven by the OECD's Committee on Fiscal Affairs (CFA). The OECD work can be traced back to November 1997, when a major international conference *Dismantling the Barriers to Global Electronic Commerce* was organized in Turku, Finland. Following the Turku Conference, the OECD prepared a framework for the taxation of electronic commerce that was presented at the Ottawa conference in October 1998.⁶⁰ The Ottawa report concluded that the same principles that governments apply to the taxation of conventional commerce should apply to electronic commerce. These principles include the well-known tax policy concepts of neutrality, efficiency, certainty, simplicity, effectiveness, fairness and flexibility. New legislative measures were not precluded, provided that they were intended to assist in the application of the existing taxation principles and not to impose a discriminatory tax treatment of electronic commerce transactions.⁶¹

After the Ottawa conference, the OECD established a work programme to cover the following areas: direct tax issues (the characterization of payments from different electronic commerce transactions, the concept of permanent establishment and the attribution of profits to permanent establishments), consumption taxes and tax administration (improving taxpayer service and compliance, methods of audit and tax collection).⁶² It was recognized that business participants had a key role to play, bringing to the debate valuable business and technological expertise, and, given the global nature of e-commerce, participation of non-member economies in the process was vital. Thus, five Technical Advisory Groups (TAG), consisting of government representatives from both OECD member and non-member countries and business participants, were established to investigate policy solutions to the challenges raised by electronic commerce. The TAG on Treaty Characterization of Electronic Commerce Payments considered the application of the definition of royalties in the context of electronic commerce. The Business Profits TAG examined how the current tax treaty rules for the taxation of business profits apply in the context of electronic commerce and elaborated proposals for alternative rules. The Consumption Tax TAG advised on the practical application of the destination principle. The Technology TAG provided technological input into the work of the other TAGs. The Professional Data Assessment TAG focused on the examination of the feasibility and practicality of developing internationally

60 OECD, *A Borderless World: Realizing the Potential of Global Electronic Commerce* (1998).

61 *Id.*, at sec. 2.

62 OECD, *Taxation and Electronic Commerce: Implementing the Ottawa Taxation Framework Conditions*, p. 13 (2001).

compatible information and record-keeping requirements and tax collection arrangements.⁶³ The TAGs produced several discussion documents and reports, on the basis of which changes were incorporated in the Commentary to the OECD Model Convention.

Taxation of electronic commerce is currently being discussed within the OECD Base Erosion and Profit Shifting (BEPS) project. The BEPS Report⁶⁴ stated that rules of international tax law failed to keep pace with the changing business environment, and the BEPS Action Plan⁶⁵ set out 15 action items to remedy this mismatch. The first action item is to address the tax challenges of the digital economy. On 24 March 2014, the OECD published a discussion draft on that action item and requested comments by 14 April 2014.⁶⁶ The draft discusses both income⁶⁷ and indirect⁶⁸ tax issues. It received responses from over 60 stakeholders.⁶⁹ The commentators generally agreed that it is not possible to ring-fence the digital economy and that the OECD should not make any specific recommendations until work is completed on the other action items.

The BEPS initiative seems to provide an opportunity to rethink the fundamental concepts of international tax law since addressing a large number of intertwined issues makes sense only as part of a large comprehensive project. However, different agendas of various countries and stakeholders will make it impossible to achieve global consensus. Even if some general recommendations will be made at the international level, those recommendations would need to be implemented into national legislation. The implementation would require amendments to laws and renegotiations of bilateral tax treaties. Countries with sectors build up around tax planning will have less incentive to modify the law, since such amendments could make them less attractive for multinationals. Companies that will be required to make significant investments in new information technology to gather and process information in accordance with new more comprehensive reporting obligations are likely lobby against BEPS-implementing measures. Finally, the success of the BEPS project will depend on the extent to which non-OECD members will cooperate.

63 *Id.*, at p. 13.

64 OECD, *Addressing Base Erosion and Profit Shifting* (2013), available at www.oecd.org/tax/beps.htm.

65 OECD, *Action Plan on Base Erosion and Profit Shifting* (2013), available at www.oecd.org/ctp/BEPSActionPlan.pdf.

66 *Supra* n. 19.

67 Among corporate income tax aspects discussed in the draft are: withholding tax on digital transactions, a new nexus standard based on significant digital presence, the concept of virtual permanent establishment and modifications to exemptions from the PE status.

68 Among consumption tax aspects discussed in the draft are: multiple-location enterprises, exempt supplies and collection of VAT in the digital economy (remote supplies of electronic services to consumers and exemption for importation of low-value goods).

69 See www.oecd.org/ctp/comments-action-1-tax-challenges-digital-economy.pdf.

1.4.3.2 European Union

The European Union has actively participated in the debate on taxation of electronic commerce and the digital economy from the very beginning. However, its input has been limited to indirect tax issues.⁷⁰ In June 1998, the European Commission issued a *Communication on Electronic Commerce and Indirect Taxation*,⁷¹ which intended to be the EU contribution to the Ottawa Conference. Four years later, the Electronic Services Directive (2002/38)⁷² was enacted. It introduced new place-of-supply rules and a special regime for third-country suppliers of electronic services. However, those amendments did not provide for equal treatment of EU and non-EU suppliers that provide electronic services to EU private individuals. This disparity will be removed as from 1 January 2015. As from that date, all entrepreneurs supplying electronic services will charge VAT at the rate of the customer's country.

In October 2012, European Central Bank (ECB) published a study on the relevance of virtual currency schemes for central banks.⁷³ The assessment covers the impact of virtual money on stability of prices, financial and payment systems, as well as reputational risk concerns and regulatory issues. The report concludes that virtual currency schemes fall within central banks' responsibility as a result of their characteristics shared with other payment systems. They do not pose a risk to price stability, provided that virtual money creation continues to stay at a low level. The fact that virtual currencies are not regulated exposes users to credit, liquidity, operational and legal risks. As virtual money can be used by criminals, fraudsters and money launderers to perform their illegal activities, a close monitoring of virtual currency systems by public authorities is necessary.

On 22 October 2013, the European Commission adopted a decision establishing an Expert Group on Taxation of the Digital Economy.⁷⁴ The aim of

70 Article 113 of the Treaty on the Functioning of the EU (TFEU) authorizes the Council to adopt provisions for the harmonisation of Member States' rules in the area of indirect taxation because indirect taxes may create an immediate obstacle to the free movement of goods and the provision of services within the internal market. However, Member States have broad sovereignty in the area of direct taxation. Under Article 115 of the TFEU, the Council may issue directives for the approximation of laws on direct taxation, provided that they are necessary for the functioning of the internal market.

71 European Commission, *Communication on Electronic Commerce and Indirect Taxation*, COM (1998)374 final (17 June 1998).

72 *Council Directive 2002/38/EC of 7 May 2002 Amending and Amending Temporarily Directive 77/388/EEC as regards the Value Added Tax Arrangements Applicable to Radio and Television Broadcasting Services and Certain Electronically Supplied Services*, OJ L 128 of 15 May 2002 (hereinafter: "Electronic Services Directive (2002/38)"). Originally, the Directive was intended to apply for a period of three years, starting from 1 July 2003. This period was extended many times and, finally, in 2008, the arrangements became permanent.

73 ECB, *supra* n. 28.

74 See http://ec.europa.eu/taxation_customs/taxation/gen_info/good_governance_matters/digital_economy/index_en.htm.

this Expert Group was to examine the best ways of taxing the digital economy, to identify key problems and to present a range of possible solutions from an EU perspective. On 28 May 2014, the Expert Group presented its final report with some general conclusions (tax rules applicable to the digital economy should be stable, simple and neutral).⁷⁵ The Group is of the view that the Member States should commit to apply the destination principle to all supplies of goods and services and welcomes the expansion of the One Stop Shop arrangement as from 1 January 2015. In general, the views of the Expert Group are consistent with those expressed in the OECD BEPS reports.

⁷⁵ Expert Group on Taxation of the Digital Economy, *supra* n. 20.