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Taxation in Virtual Worlds: Analysis Under United States of America and Turkish Tax Regulations

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Sanal Dünyalarda Vergilendirme: Amerika Birleşik Devletleri ve Türkiye Vergi Düzenlemeleri Kapsamında Analiz

Abstract

In today's day and age, there is a new world comprised of novel terms like virtual reality, virtual environment or virtual worlds. Virtual worlds allow participants to buy and sell virtual goods and services using virtual currency. Therefore, virtual world transactions bring large amounts of income. In countries that have adopted the recommendations of OECD and G20 countries, tax regulations have begun to be made on the subject. The study aims to discuss the taxation problems arising due to the incredible number of users spending time in virtual game worlds. In the study, Turkish and US tax regulations were examined. The study shows that virtual worlds are getting closer to the real world, there is a transition towards the meta-universe, people earn income in these environments, and there are differences between countries in the taxation of these incomes.

Keywords : Virtual Worlds, Virtual Game Worlds, Taxation of Virtual Values, Second Life, Metaverse.

JEL Classification Codes : K34, H25, H26.

Öz

Çağımızda sanal gerçeklik, sanal ortam veya sanal dünyalar gibi yeni terimlerden oluşan yeni bir dünya vardır. Sanal dünyalar, katılımcıların sanal para birimini kullanarak sanal mal ve hizmet alıp satmasına olanak tanır. Bu nedenle sanal dünya işlemleri büyük miktarda gelir getirmektedir. OECD ve G20 ülkelerinin tavsiyelerini benimseyen ülkelerde konuyla ilgili vergi düzenlemeleri yapılmaya başlanmıştır. Çalışmanın amacı, inanılmaz sayıda kullanıcının sanal oyun dünyalarında vakit geçirmesinden kaynaklanan vergilendirme sorunlarını tartışmaktır. Çalışmada Türk ve ABD vergi mevzuatları incelenmiştir. Çalışma, sanal dünyaların gerçek dünyaya yaklaştığını, meta-evrene doğru bir geçiş olduğunu, insanların bu ortamlarda gelir elde ettiğini ve bu gelirlerin vergilendirilmesinde ülkeler arasında farklılıklar olduğunu göstermektedir.

Anahtar Sözcükler : Sanal Dünyalar, Sanal Oyun Dünyaları, Sanal Değerlerin Vergilendirilmesi, Second-Life, Metaverse.

1. Introduction

Max Headroom, a 1980s television show, started its broadcast by using the slogan *"20 Minutes to the Future*". The plot of the show followed the life of a reporter named Edison Carter, who succeeded in creating a computer-generated alter ego named Max Headroom. As a digital product, Max could travel to the future and chat with people like himself, thanks to computer systems.

Max Headroom is no longer science fiction but today's reality. The commercial development of the Internet in the mid-1990s led to the embracement of networked computer systems spanning the globe (Switzer & Switzer, 2014: 1).

Virtual environments are technically developed from text-based internet chat rooms via Massively Multiplayer Online Games (MMOG) for X-Box and Play-station, MultiUser Dimension (MUD) and Massively Multiplayer Online Role-Playing Games (MMORPG) such as World of Warcraft and Lord of the Rings Online. The game element in these examples is very important. Future self-written virtual environments are not games but instead emphasise the creative, analytical, educational, and practical. In 1938, the French writer Antonin Artaud defined theatre as a virtual reality in which characters, objects, images, and everything that makes up the virtual reality of theatre generally evolves. The mobile phone and laptop have already started the wave of decentralisation that heterotopic sandboxes will further enable. The market for apps for Apple and Android devices has also led to the ever-growing trade in virtual goods. More importantly, the virtual goods market in the metadatabase brings people closer to Nelson's original idea of a decentralised internet where the producers are equal. In Nelson's understanding, reusing an item or object would carry a reference to the source and therefore allow free use of the 'works' while protecting the author's copyright (Hagerty, 2012: 97-99).

Virtual worlds without a specific plot can be seen on platforms such as Second Life, The Sims Online, and There. For instance, the owner of the game Second Life, Linden Lab, provides the fundamental setting, whilst users produce the great majority of the world's content. Virtual worlds offer a platform for any real-world activity. Real-world companies use the virtual world to promote their products. Second Life has attracted significant investment. For instance, Mazda debuted its Hakaze concept car in Second Life in early 2007 before doing so in reality. People who engage in virtual worlds often pay to participate, and many are there to entertain themselves. However, players frequently obtain in-game goods like virtual currency, gear, or weaponry, even when playing structured games. Some players will transfer such an item globally in exchange for actual cash. Many goods have discernible valuations as a result of such actual market transactions. These values can get relatively high. Some people support themselves by playing video games, utilising their online personas to gain valuable virtual goods, and then reselling them, usually on auction sites. Can someone who earns their income by conducting online auctions of virtual property be taxed on these profits? Is the value of an item an avatar finds or wins taxable to the owner? And is any increase in the value of an item that the player exchanges with another player in-

game (for another item or virtual money) subject to taxation? These questions are important when considering tax revenues (Lederman, 2007: 1621-1623).

Taxing economic transactions within virtual worlds is a problem for revenue administrations. Given that some virtual world economies are equivalent to some countries' economies, the problem could be exacerbated. Revenue administrations want to collect taxes on all kinds of earnings. However, the emergence of powerful internet platforms has affected the ability of revenue administrations to tax corporate profits. Transfer prices in virtual economic activities lead to a decrease in the tax revenues of governments. The development of virtual commerce also affects the tax collection powers of tax authorities. Due to the difficulty of determining tax transactions in certain geographical regions, the tax base on large internet platforms is also decreasing. The current situation led the states to think about the taxation of transactions and earnings in virtual economic environments, and discussions were held on this issue. This study will discuss the features of virtual worlds, virtual economic transactions, and taxation ways of the earnings resulting from these transactions. In addition, the virtual economic activities of the USA and Turkey will be examined and analysed in terms of tax regulations.

2. The Aspects of Virtual Worlds

Virtual worlds are computer-simulated spaces that emerged in the 1970s. They initially appeared with text-based games. Virtual games are generally tabletop games in which users act. Emerging virtual game worlds are multi-user, real-world simulation spaces. Some technologists predict that in the future human beings will live entirely in these worlds. These worlds are now described as metaverses. With projects such as The Sandbox and Decentraland, worlds are being created where users can communicate with each other and use virtual money (Brooks, 2022).

Virtual game users represent themselves in these places with their avatars. Users are often eager to create a digital identity with a younger version of themselves. They can change the look of their avatar with a few commands. According to studies, there is a deep connection between the user and the avatar. Most people create avatars that are representations of their identity, gender, and ethnicity. The game's avatars evolve, grow, and change as the player plays. Virtual artefacts that are exchanged or won are used for most of this exchange. Virtual artefacts can be anything from a hairstyle or a change of shoes or lands and the entire planet (Hagerty, 2012: 97-99). Virtual world participants participate in the game by accepting the terms of service and the issues specified at the end user agreements before entering this game world.

Virtual worlds are divided into structured and unstructured. In structured virtual worlds, game makers devise stories and goals for game participants. These worlds often contain adventures. Most of them participate in the game with their avatars, defeat their enemies and earn points. Structured worlds are endless. To preserve the subscriber count of a virtual game world, the game developers constantly update the game by installing patches.

Thus, they expand the boundaries of the game and introduce new game features. In such a case, subscribers must purchase a separate expansion pack or sequel. The Entropia Universe, World of Warcraft, Ultima Online, Final Fantasy XI, and Everquest series are structured worlds.

Unstructured virtual environments lack a predefined plot. Avatars start the game by accepting the rules and are allowed to move freely. They are not generally seen as a game world but as an environment that provides socialisation. Some worlds are places where real-world products are marketed. Second Life, There, Kaneva, and Habbo Hotel are examples of unstructured virtual worlds. (Chung, 2008: 736-737).

The most significant potential of virtual games is the decentralisation of markets for the production, ownership, and exchange of digital assets, as well as the conversion of players' virtual time, effort, and earnings into disposable income in the real world. The game world has an infrastructure that offers significant opportunities and wealth to the best players. The top players may qualify as top athletes, hold salaried team positions, take home tournament prizes, or handle sponsorship negotiations. Other players can earn money from their live streams by playing video games on streaming services like Twitch or YouTube Gaming.

Since they have overtaken linear TV, entertainment on demand, cinema, and music to become the most extensive media category in the world, virtual game worlds have also developed several characteristics. Most game-based economic activities are now centralised, giving game developers and publishers complete control over everything that occurs in their creations. Sales of in-game products, digital goods, and subscriptions produce billions of dollars as players become professionals in online gaming.

Individuals must have faith in the robustness and soundness of their digital assets and products if they spend considerable time, attention, and personal investment in digital environments. Early examples demonstrate that blockchain technology, which uses cryptography to establish digital trust and a decentralised store of value, can accomplish this.

Blockchain technology is used in many sectors, including the arts and banking. Blockchain technology is the foundation for value generation in games obtained through play, including non-fungible tokens (or NFTs). A unique, immutable digital asset is the subject of a digitally secured property claim known as NFT (Non-Fungible Token). NFTs can take on various shapes in virtual environments, including avatars, products, scenery, and cosmetic modification options like digital apparel. People who excel at the game can "win" the most valuable items and sell them for real money on their terms.

The key novelty in these digital assets is their decentralised integrity and security, which for the first time, can go beyond traditional ownership, custody control, and discretion of a firm or even government. For example, in-game resources can be sold for free on in-game and non-game markets rather than relying on publishers' or third parties' permissions

or rules. The potential of play-to-win games in creating a new economy has been highlighted by several communities that have surfaced recently. The video game "Axie Infinity” demonstrates that this is more than a witless idea. In a few months, the game's daily active user base increased from 4,000 to 2 million, with the Philippines and Venezuela seeing the most significant growth. The money that participants in these Global South nations can make online is significantly more valuable to them than what their local physical economies can provide. Virtual games have yet to completely and naturally eliminate the centralisation within them. They still require the game publisher's authority to define, publish, and restrict the asset traded as an NFT. The potential for decentralising markets for the creation, ownership, and exchange of digital assets, as well as the potential for situations where players can convert their digital time, effort, and earnings into disposable income in the real world, are the most significant promises made by play-to-play games (Hall & Lentz, 2021).

Virtual worlds are creative economies of which we know and ponder their possibilities. Still, as of this moment, their role in any future real-world economy needs to be clearly defined. The presentation of available economic data (for trade secrecy) is often incomprehensible and not open to easy analysis, but what is clear is that a significant economy exists. For example, a Forbes report on Linden Lab's Second Life stated that "the 25 largest residents of the virtual world collectively earned $12 million" in 2009. The rise in virtual world economies shows that tax authorities must proactively address emerging issues.

Second Life is a metadata store. It is a 3D graphics environment developed by San Francisco-based software firm Linden Labs. It is accessible via the web and allows many simultaneous users to interact. An avatar that can walk, fly, drive, and teleport into virtual settings and engage in various activities represents each user graphically. One of the newest and most well-liked systems for metadatabases, it provides for both synchronous and asynchronous communication as well as dynamic alteration of the virtual environment through the possibility for all users to build there. It constantly changes as avatars engage with the Second Life world and one another. Residents can acquire land, construct homes and businesses, and sell their goods to other program participants, all for free. Second Life was released in 2003 (Alrayes & Sutcliffe, 2011: 4). Second Life's content platform, Seraphim, grew approximately 34.3 per cent in 2021. The showcase page established a new record with 20 million page visits in 2021. Seraphim, founded in 2011, offers Second Life users a digital platform for hosting and disseminating user-generated content. For in-game things, including digital boutique items, tattoos, character skins, and interior design items, Second Life "residents" can browse the website. Since its founding, Second Life has attracted finance totalling around $11 million, and it has generated an in-game economy with a value of almost $500 million. Second Life reported having about 64.7 million active users on its platform as of 2021. Organisations, including Stanford University, the American Cancer Society, and Adult Swim, have utilised the platform for corporate-level virtual events (Greener, 2022).

Real-world sellers have begun to use these worlds as commercial space. For example, in Second Life, retailers started using Second Life for sales and marketing, as residents began to buy virtual goods made by other residents.

Dell, Cisco Systems, Xerox, and Nissan are all involved in the Second Life game. Second Life allows participants to design virtual items. In 2006, she won the Edelman public relations firm's business plan design competition for Second Life with her virtual island design, Aimee Werber Weber Studio. This project is a hybrid project. Studio; has been used by the United Nations, the American Cancer Society, the National Oceanic and Atmospheric Administration, and American Apparel.

Reuters News, Sony/BMG Music, Wired Magazine, and Starwood's W Hotels are participating companies. Except for real estate, most virtual worlds don't charge for their virtual elements. However, most receive monthly subscription fees (Bray and Konsynski, 2007:1-3, 14). Virtual world users can design virtual homes by paying real-world money. Virtual avatar Anshe Chung has earned more than $1,000,000 from selling real estate. EverQuest II launched a commercial promotion in February 2005 that allowed avatars to order pizza from their virtual world.

Virtual worlds charge their participants a monthly fee to use a virtual item they sell later, and the use of these items is limited to the time this world lasts. The virtual game operators will take back the virtual properties if the participant does not pay the monthly fee or leaves this world. In other words, the rights of avatars to use virtual property are limited to the duration of their existence in the game. Architects and city planners already accustomed to using Computer-Aided Design (CAD) are increasingly using virtual environments better to predict final construction and test evacuation and safety protocols.

Massively Multiplayer Online Role-Playing Games (MMORPGs) are virtual worlds where the virtual property can be discussed. They seek to make a pleasant, fantasy-based virtual environment where users can go on excursions together. The focus on developing computer-mediated, shared experiences that people can share without a meticulously planned plot is where Second Life, Entropia Universe, Cyworld, and other virtual worlds differ slightly. Instead, virtual players decide what to accomplish, their objectives, and how to construct their virtual world.

To transmit news on both the virtual and real worlds "out there," Reuters has established a virtual centre in Second Life. During sessions held in Second Life, a virtual live concert by Susanna Vega was broadcast by National Public Radio. IBM announced its intention to create twelve virtual islands for business meetings and staff events in December 2006 and hosted a virtual gathering of former employees. In Second Life, more than 40 companies are listed on Wikipedia (www.wikipedia.org). Additionally, several actual universities, like INSEAD and USC-Annenberg, create islands in virtual worlds and conduct classes there. The CyberOne course at Harvard Law School is partly taught on Second Life's Berkman Island.

Virtual currencies are used in virtual worlds to facilitate the trade of products and services. In Second Life, virtual avatars can trade Linden dollars. Other virtual world currencies are traded at set rates rather than fluctuating. Project Entropia Dollar, sometimes known as PED, is one example of a virtual currency used in Entropia Universe. Dotori, short for "acorn," is a virtual currency used on Cyworld (www.cyworld.com). Virtual participants are urged to use the acorns to buy virtual goods for their digital avatars, such as clothes, decorations, musical instruments, songs, videos, and other entertainment, for 100 Korean won ($0.010) each. Most Cyworld goods have expiration dates and disappear on their own when they do. Cyworld introduced a similar virtual world at the end of August 2006 focused on North American users.

Real-world business enterprises also create virtual worlds. The MTV music channel has created a virtual environment called "MTV's Virtual Laguna Beach", where users may interact with friends and fans while watching the MTV Laguna Beach television show. The service is free and still in beta. MTV has requested corporate sponsors to utilise the gaming environment to showcase product placement and advertisements included in the immersive experience. Participants could also use virtual currency to buy virtual and actual goods, including new music, films, and apparel. Participants can purchase virtual currency with real credit cards and earn MTV$ by participating in product placement activities. In addition, real-world bands and musicians give virtual concerts.

In virtual worlds, there are banks. Meta Bank is a virtual bank in the game Second Life. Customers can perform banking transactions. Meta Bank gives loans in L$ and charges interest. Wells Fargo bank is in Second Life (Bray & Konsynski, 2008: 2).

Virtual worlds offer unlimited collaboration opportunities to achieve defined goals. Simulation is used in real-world training as well as other real-world events. The Multinational Planning Development Team (MPAT) at the University of Edinburgh has developed virtual platforms and artificial intelligence (AI) algorithms on which real-world emergency response teams can be organised to prevent worldwide disasters.

It is predicted that the education industry will use virtual classrooms instead of real buildings. The University of Texas at Austin has launched an initiative to use Second Life as a year-round platform on all sixteen campuses. The initiative has been observed to have been innovative, cost-effective, and efficient for students, faculty, researchers, and administrators.

The virtual worlds have enormous potential for social and political change of the social avatar, possibly turning into a new, borderless world of global citizens. There is greater egalitarianism and equal opportunity in virtual worlds (Hagerty, 2012: 99-101).

Avatar accessories like clothing, hair, and other personal augmentations are the focus of most virtual goods transactions in virtual worlds. However, different sorts of property like automobiles, houses/apartments, virtual land, or a particular sword or weapon are also

included. A club, hotel, art gallery, resort, or even a classroom may require an entrance fee in some virtual worlds where residents can restrict access to their facilities. The services provided by other entrepreneurial avatars could range from advice to fortune-telling (Rumbles, 2011: 356-357).

The potential of virtual worlds to be used in political and military affairs can cause many legal problems. In some Massively Multiplayer Online Role-Playing Games, players' contributions to the game give them certain rights. In MMORPGs, virtual items gain a stable legal structure with the ownership model. There is no obstacle in considering virtual items as objects in such games. It is understood that virtual items carry the necessary elements for a thing to be qualified as an item according to the classical item doctrine. For example, a virtual sword in the popular game WoW falls within the definition of an item. Moreover, the sword's owner has the right to bar other players from using that sword. This feature is one of the most important features of property rights. The virtual world continues to spin even after the players exit the game. There is also the everyday use of resources and the constant interaction of the players with each other. All these features in MMORPGs lead to real-world economic rules to apply.

Transfer and succession of virtual elements are possible. Such transactions are made frequently, especially on eBay, IGE, Yahoo, and similar auction sites. After selling their virtual assets on eBay for real money, players meet in the corner of the virtual world and perform the virtual transfer. In some games, the password information of the avatar's account is transferred in real life for a specific price. So, despite the objections of game developers, all virtual items and avatars are exchangeable commodities. All these explanations show that virtual assets have the characteristics of movable goods in both the continental European and the Anglo-Saxon legal systems. No one can claim that a value that can be measured in money and that can be assigned and transferred in the market is not an item, even if this value consists of only an account password when necessary (Gemalmaz, 2019).

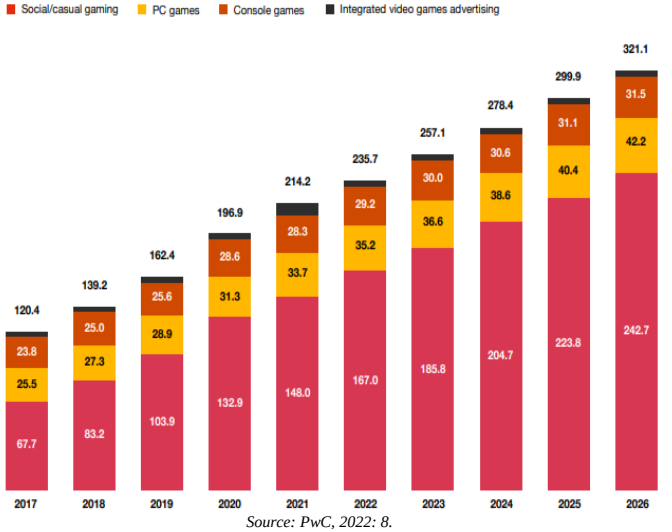
3. Economic Activities in Virtual Worlds

In a virtual game like Second Life, there are entire universes of transactions, including the sale of commodities and services. Shopping in person doesn't exist (Switzer & Switzer, 2014: 2-5). The virtual world is a 3D platform centred on avatars, with avatars standing in for actual people. A user's avatar is a graphic representation of them in three dimensions (3D) that allows them to interact with the virtual world and engage in virtual activities. Instant messages, virtual money, and virtual elements can all be traded between avatars. (Nazir & Lui, 2016: 2).

The financial power of virtual worlds is gradually developing. The first release of The Sandbox's digital real estate, known as land, was made in December 2019, earning owner Animoca Brands an estimated more than US$7 million. Nintendo's Animal Crossing game has been trending in the era of global Covid-19, and players have purchased their outfits for their avatars with real-world money.

By increasing the number of their active participants daily, popular games such as Fortnite, Minecraft, and Roblox turned into games with millions of people entering the network. Virtual resources in games offer smart investors opportunities to earn serious money in the real world. For example, players who become professional esports players or digital farmers are paid a salary. In the virtual economy space, the battle royale game Fortnite broke a record with revenue of $1.2 billion in its first ten months after its release in 2017 (Cooper, 2021).

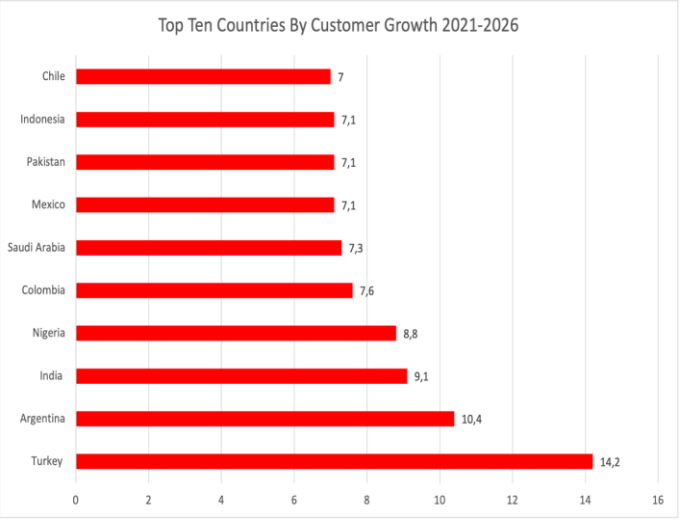
Figure: 1
Worldwide Video Game Sales Total, By Segment (US$ bn)



Source: PwC, 2022: 8.

In 2022, PwC (PricewaterhouseCoopers) published its "Global Entertainment and Media Outlook Perspectives" report. According to the report, the digital gaming industry is experiencing the most significant growth. According to the information, Total video games revenue (excluding esports) in 2021 was $214.2 billion. It is estimated to rise to 321.1 billion dollars in 2026 with a compound annual growth rate of 8.4% (PwC, 2022: 8). Asia ranks first in in-game volume. A study by DFC Intelligence in August 2021 showed that Asian countries account for 1.48 billion of the total 3.2 billion players worldwide. In other words, 45% of the players live in Asian countries, with players based in Europe 22% (or 715 million) of the total (Wepc, 2022).

Figure: 2
Top Ten Countries by Consumer Growth, 2021-26, CAGR, %



Source: PwC, 2022: 7.

The report announced that Turkey will be the fastest-growing video games market, with a compound growth rate of 24.1% in 2021 and 2026. Turkey is followed by Pakistan (21.9%) and India (18.3%). The research conducted by PwC also predicts that Turkey will be the fastest-growing country in terms of consumer income, with a rate of 14.2% from 2021 to 2026. Although this rate covers the entire entertainment sector, the most significant share comes from games. Argentina and India follow Turkey in terms of consumer income in the research. Turkey is currently the country that receives the most game investments in Europe. In the first six months of 2022, Turkish gaming start-ups received an investment of 333 million dollars, making Turkey the first in Europe in this regard. England follows our country with 158 million dollars and Norway with 60 million dollars in the ranking of the countries that receive the most investment in the gaming industry in Europe. In addition, Citibank's prediction that the Metaverse economy could be worth 13 trillion dollars by 2030 is also included in the report (PwC, 2022: 7).

Virtual world participation is mainly for recreational purposes for the majority of users. However, certain entrepreneurs may participate for commercial purposes. Although most participants occasionally do income-generating work in the virtual world, a few have made this business permanent (Chung, 2008: 730). In virtual worlds, an environment allows participants to make virtual economic transactions. Avatars join the story to introduce themselves and increase their power. Avatars usually start the game with a small number of items and money. As the game progresses, the avatars become stronger and obtain more powerful treasures. They spend virtual money on armour and weaponry to prepare for raids

or missions that will become more challenging. These sales require them to interact economically online with other avatars. This is how virtual commerce is born. Virtual worlds issue their currency as avatars engage in many different transactions. It has been observed that 100,000 young people in China and Vietnam generate income by providing "power levelling" (Rumbles, 2011: 359).

Most virtual properties have real-world monetary value. Virtual currency is a medium of exchange and a store of value. Virtual currency is offered according to the development of the game. For instance, World of Warcraft is a medieval game, and the currency is sometimes gold, sometimes silver, and sometimes archaic, depending on the game’s development (Chung, 2008: 739).

Exchange tools such as Second Life's LindenX or Entopia's PED card allow money to be exchanged between the virtual and real worlds. In addition, some tools allow conversion between different art currencies. For example, Metaverse Cent (OM¢) is one of these tools.

The majority of virtual property transactions are undervalued. However, some transactions are of exceptionally high value. For example, in 2004, David Storey of Sydney bought a virtual island for $45,000. Cisco and IBM have set up private islands in Second Life and have turned these islands into international meeting venues. Almost every segment of society, from educators to real estate agents, uses these worlds. Millions of people in these worlds come together for fun or to use commerce. This has also intensified criminal activity in these worlds. According to the European Network and Information Security Agency's report, criminals are extremely quick to monitor monetary transactions. They are more likely to target the crossing points between the virtual and real worlds (Rumbles, 2011: 360).

Most virtual worlds have a closed economy and do not allow their users to make real monetary transactions. However, some users may circumvent these bans (RMT: Real Money Trading). In the first step of a simple RMT exchange, two participants accept the exchange and pay the seller their money in real-world currency. The virtual object is subsequently sent to the buyer's avatar by the seller's avatar. Most RMT transactions are made through online brokerages (Chung, 2008: 740-744).

Real money trading (RMT) in virtual worlds is important, and most worlds don't allow it. The second Life game enables users to create virtual items, buy virtual land, and make virtual business transactions. The Linden Dollar has a floating exchange rate to the US dollar (USD). The currency exchange system is LindeX. 3rd party companies can also exchange money.

Mindark's Entropia Universe allows real-world money to be exchanged for virtual currency. Participants in the game act as colonists who discover the planet Calypso. In a futuristic environment, as in many structured virtual worlds, avatars hunt and battle monsters. In addition, players can run shops, produce goods, buy land, and trade goods and

services. The Project Entropia Dollar (PED) is the currency of the Entropia Universe, and ten PEDs are one US dollar. Participants in the game can convert their PEDs into their country's currency.

MindArk has established the "Entropia Universe virtual platform", which offers the participant an opportunity to earn, and has issued a cash card that allows the earned virtual money to be withdrawn from a real-world ATM. Banks were also established on the platform, and those who earned income were disclosed to the public.

A high school senior earned $35,000 from selling virtual goods. A twenty-three-year-old participant bought a virtual island for an average of $27,500 and paid for it by renting it. Another user earned $100,000 by operating a virtual asteroid (Chung, 2008: 744-746). However, MMOGs (Massively Multiplayer Online Games) such as World of Warcraft and EverQuest prohibit the sale of virtual items for gold or currency. Such activities in such games are contrary to their terms of service and end-user license agreements. They banned the use of virtual currencies in auctions. However, numerous examples exist of people making a living by trading virtual goods. Second Life members have professions where they earn their living within the virtual world, such as jewellery makers, tour guides, musicians, landscape architects, nightclub owners, and lawyers. There are also third-party auction sites that act as intermediaries for in-world currency, virtual goods, and accounts worldwide.

Some malicious people can use virtual world transactions in money laundering, as it is almost impossible to track transactions in the virtual world and can be converted into real-world currency. In virtual worlds, crimes such as identity theft, hacking and credit card fraud can be committed. Dilla, Harrison, Mennecke and Janvrin; conducted a study investigating the fraud cases encountered by those entering the virtual world. In multiplayer game worlds, companies employ people for wages and direct profits from selling in-game items and properties. Julian Dibbell talked about how to profit from selling fictitious goods in his book "Play Money, or How I Quit My Day Job and Made Millions Trading Virtual Loot" and earned 11000 USD (Switzer & Switzer, 2014: 2- 5).

4. Taxation in Virtual Worlds

Government officials and academics are starting to investigate the taxation of economies in virtual worlds. Taxing transactions in virtual worlds may have seemed absurd in the early days of virtual reality, but the concept is now receiving significant consideration. Over the past ten years, the online video game market has grown to billions of USD. The enormous reach of economic activities in virtual worlds has brought up the discussion of the taxation of virtual property, economic activities and virtual currencies used in these worlds, and countries have made taxation arrangements according to their tax legislation.

In the virtual game world, participants can buy title deeds, rent, and sell their land to other players to acquire virtual real estate. It is estimated that billions of dollars are returned

in this type of business. Earnings from selling land and works of art in digital environments must be taxed according to real-world tax laws.

The existence of virtual property is accepted all over the world. In virtual game platforms, the contracts made between people and service providers give people the right to use, and users can acquire properties in these virtual games according to the content of the service. Application unity has yet to be achieved as some virtual game platforms prevent the assignation and transfer of virtual property elements, and some do not. Most people sign and enter the game without reading the contract terms when opening any game account. Such contracts can't be accepted as contracts made with a full declaration of a will since there is no chance to go over the contract terms with the service provider in case of confusion or misunderstanding. Arguably, contracts that prohibit such ownership, assignment and transfer are the product of an easy and imposing mentality. These contracts have the nature of general transaction conditions by the principles of contract law and must be legally invalid. Virtual property established on virtual items has its characteristics. Unless new legal regulations are made, it has the "movable goods" feature in law.

Virtual games have monetary equivalents, and the service provider can prohibit third parties from using the virtual asset. Virtual property may be subject to compensation. While Turkey adopts no judicial jurisprudence in this regard, a court in China has ordered a service provider company to pay compensation to a person whose account was hacked and whose virtual property was stolen. Taiwan courts have also ruled that any virtual item is virtual property. In terms of moral compensation, a worldwide precedent decision has yet to be taken. Likewise, there are many precedents in countries such as the Netherlands, the USA, France, and Japan; even though in these countries, virtual currencies and cryptocurrencies are not classified or accepted as currency, they are considered transferable so that they can be subject to virtual ownership (Yıldırım, 2021).

In the metaverse, where millions of dollars of investments have been talked about recently, virtual lands are first among the most desired assets to be purchased. Second Life is a virtual reality game that can be considered one of the first examples of Metaverse. Game maker Linden Lab has stated that "sales tax" must now be paid on virtual land sales. Company officials explained the necessity of paying taxes with the law enacted in the USA in 2018, which obliges the payment of taxes on online purchases (Kaya, 2022).

Locating a Second Life user's residence can be difficult when they make "real world" money as a natural person, not through a business. A Second Life user can be required to pay income taxes in their home nation. Additionally, altering how money is made in the virtual world is simple to avoid paying taxes (Yıldırım, 2021).

In Germany, a German taxpayer earned income by renting virtual land. The taxpayer avatar exchanged the virtual currency he received for virtual land for real fiat currency. The taxation issue of this receipt went to the Cologne Fiscal Court, which decided that this

income should be subject to VAT according to customary German tax laws (Luther & Zawodsky, 2021).

Different tax systems are applied to virtual currencies around the world. Germany charges tax on earnings in virtual currency exceeding 600 Euros.HM Revenue and Customs of the UK does not accept virtual currencies as currency. Suppose it is used as an individual investment instrument. In that case, the administration qualifies it as an intangible asset, and in case of disposal, it is subject to capital gains and receives income tax. South Korea has started to work on the legal regulation on the taxation of 20% of the earned income. According to OECD's G20 Tax Report, almost all the countries except Italy, Netherlands, Portugal, and Switzerland regard the exchange of virtual currencies with nominal currencies as a "tax-generating event" (Ersoy, 2021).

In this section, the perspective of the USA, which is the homeland of the Second-Life game, will be discussed within the framework of the legal regulations made by the IRS. Then, the subject will be evaluated by considering the application of Turkey.

4.1. The USA Practice

The US Internal Revenue Service (IRS) recognises virtual currency as property. Virtual currency means all income from whatever source it is derived from and leads to tax liability. Virtual currencies that can be converted to world currencies are subject to income tax. This indicates that the general tax rules that apply to real property transactions can also be used for virtual property transactions. For this reason, earners who earn exchangeable virtual currency, namely taxpayers, are obliged to declare the sales price of virtual properties to their respective tax offices. Fines for violating IRS tax laws, such as underpayment and failure to disclose penalties, may apply to taxpayers who fail to record revenue from the sale or exchange of virtual currencies (Gabaie, 2020). States recognise the requirement to regulate and tax virtual transactions (Cole, 2021).

In the USA, while states with a sales tax assume that all sales transactions are taxable (unless there is a specific exemption or exception), most states have yet to clarify which sales tax laws apply to sales made in the metadata warehouse (Cole, 2022). It is rumoured that at the beginning of 2021, a group of participants in the USA bought the virtual properties of the game Citadel of the Stars for 1.6 million dollars. Virtual lands in other virtual worlds are also sold at very high prices. In March 2021, a virtual reality game called The Sandbox sold two of its virtual properties for approximately $2.8 million, after which it stated that its digital properties were worth approximately $37 million. With the legal regulation that made it compulsory to pay taxes on online purchases that came into force in the USA in 2018, a sales tax was introduced on virtual land sales, and this tax started to be applied for the first time with the world-famous virtual reality game Second Life last March (Kaya, 2022).

Notice 2014-21 concerning the sale, exchange, and use of convertible virtual currency to pay for products or tax services in real-world economic transactions was

published by the U.S. Internal Revenue Service in 2014. Mining activity in the virtual world is considered self-employment revenue and is subject to taxation, according to IRS Notice 2014-21. Transactions involving the sale of virtual currency, its usage to pay for products and services, etc., are taxable. On the other hand, 'closed-loop' currencies that cannot be converted into real-world money are not subject to taxation. According to the IRS, v-Bux and Robux from Fortnite and Roblox are not taxable because it is difficult to convert them into US cash (Brooks, 2022).

According to US tax regulations, those who make money from nothing are taxed like real taxpayers. Digital currency exchanges such as Coinbase record digital transactions and transfer records containing the user's name, taxpayer ID, date of birth, address, and bank statements to the IRS (Gabaie, 2020).

The IRS virtual currency guidance is relevant to many NFT transactions, and taxpayers should analyse NFT transactions by general tax law principles. NFT is a type of digital certificate that comes with certain rights attached to an asset. It relates to rights to physical assets, experiences, and digital assets. The US Internal Revenue Service (IRS) stipulates that NFTs should be taxed. The IRS taxes only those who have purchased cryptocurrencies and NFTs that have increased in value from the date of purchase. The U.S. Internal Revenue Code has provisions regarding physical assets and transactions (such as patents) involving more traditional intellectual property rights. The IRS has needed some help adapting tax laws to rapidly evolving technology. For example, there still needs to be regulations on how cloud-based transactions are taxed.

According to US intellectual property law, the owners of these rights can transfer their rights partially or entirely to someone else. Earnings from this transfer are calculated according to whether the transfer is a sale or a license transfer. The transferor may deduct the sale amount if it is a sale transfer. A license transfer is suitable for long-term capital gains rates if the intellectual property rights are for more than one year. The offset may continue in future years.

Intellectual property rights in NFTs are different from each other. However, purchasing an NFT does not transfer all ownership rights to the purchased work to the buyer. There is usually a limited transfer of licenses for viewing. This may require different taxation of first and second remittances of NFTs.

NFT makers must weigh the costs associated with producing and marketing their NFT. A creator can write off or capitalise expenses for tax purposes if they deliver NFTs as part of a business or business.

States and territories apply different tax laws when taxing digital assets. Most states impose income taxes. Organisations operating in other jurisdictions are generally taxed according to federal tax laws. Therefore, the issue of whether the transfer of an NFT is a sale

or a license is critical. As NFTs can be transferred without specifying where the transferee is located, transferors may need help to profit from NFT transfers.

Taxpayers must collect this information, although the transferee's position in NFT transfers is unclear. It is difficult to determine where an NFT is stored since NFTs are aggregated on the blockchain. The same can be said for digital assets. Most importantly, states have different views on the taxation of remote sellers (Giesselman et al., 2021: 17-23).

States and territories impose income, sales, and use taxes. Many states impose such taxes on revenue from the sale of goods and services. Some regions also impose these taxes on the transfer of specific digital properties, such as Texas.

In most cases, use tax is collected in the country where the product or service is used. The laws determine the taxation office of a physical asset. However, choosing a digital asset's taxation jurisdiction takes time and effort. Generally, the tax authorities tax the seller's place of residence (Giesselman et al., 2021: 17-23).

4.2. Turkish Practice

Virtual games in Turkey are accepted as an electronic service in article 9/1 of the No. 3065 VAT Law. According to the paragraph added to paragraph (1) of the 9th article of the Value Added Tax Law No. 3065 with the 41st article of the Law dated 28/11/2017 and numbered 7061: *"Ministry of Treasury and Finance may hold the parties to the taxable transactions responsible for the payment of the tax to secure the tax receivables. So far, the value-added tax related to the services provided electronically to real persons who are not VAT payers by those who do not have a residence, workplace, legal centre or business centre in Turkey is declared and paid by those who provide this service. The Ministry of Treasury and Finance is authorised to determine the rules and procedures regarding providing services in the electronic environment".* As can be understood from the paragraph of the article, since 01.01.2018, online service sales of foreign real or legal persons to Turkey are subject to VAT, and these persons are obliged to pay VAT in Turkey.

With the pin system [Electronic Serial Number (ESN/Epin]) developed by companies entering the Turkish gaming market, players can make bank transfers without a credit card or get membership from authorised dealers via PTT (Turkish Post). If a company in Turkey buys the game codes of a company abroad, it enables the company abroad to gain commercial income. Such payments are not subject to income tax withholding. VAT is incurred as soon as a real money payment is made to a virtual game that is initially downloaded for free, then to use some of the game's characters and assets. In other words, VAT liability is not realised when the game money is spent online but when the real-world payment is made in bulk. Therefore, it follows USA practice in that virtual transfers are taxable when exchangeable to real-world currencies.

The Revenue Administration must also monitor and detect all transactions of those who provide services to real persons from abroad. In this regard, the issue of whether it is possible for the service providers who fulfil their VAT obligations on behalf of the taxpayer to submit a declaration and make payments in some countries has yet to be clarified. If the service provider is a fully liable Turkish company or a real taxable trader, there is both VAT and income/corporate tax liability.

In the case of selling virtual products to other game users at a high price within virtual games, or if the game account is brought to a certain level and transferred to someone else for real money, the income obtained is subject to income tax. This is considered an incidental gain if taxable transactions are made very rarely. The incidental income exemption amount determined for 2022 in Turkey is 58,000 TL. No tax is payable on income from incidental works that do not exceed this amount. However, if these transactions are continuous, they are accepted as commercial earnings and income tax is charged.

According to the temporary article 2 of Law No. 4691, Technology Development Law, software and R&D-related earnings in these regions are exempt from Income and Corporate Tax until 31.12.2028. However, profits from marketing the said software on disc, CD or electronic media (except for parts corresponding to the license) cannot benefit from the exception.

The report on the BEPS [Base Erosion and Profit Shifting] plan of G-20 and OECD countries recommends that virtual economy activities be taxed through indirect taxes such as VAT. The principle of taxation of consumers in the country where they are located has been accepted (Gedik, 2020: 33).

In an increasingly digital world, the right to tax is not specific to commercial gains and is not restricted to mere physical presence, the OECD Report states. To adapt to the digital economy, it is stated that the new connection point and profit distribution rules should be evaluated together, such as "permanent workplace", "controlled corporate earnings", and "transfer pricing" (OECD, 2020). In terms of corporate tax, it has been recommended that virtual transactions be taxed either through "withholding tax" through "balancing tax" or within the scope of "permanent workplace".

Turkey has put into effect Law No. 7194 Digital Service Tax and Law on Amending Some Laws and Decree-Law No. 375 regulations on the subject. According to Article 1 of Law No. 7194, all kinds of advertising services offered in the digital environment and the sales of all sorts of audio, visual or digital content in the digital environment and the income from listening, watching, playing or recording this content or the services offered are subject to digital service tax. A .5% Digital Services Tax is applied to the gross earnings from providing and managing digital services such as advertising, software, applications, music, video and video games. However, income from digital services that does not exceed 20,000,000 TL (approximately 3.14 million Euros) in Turkey and 750 million Euros (or equivalent) worldwide is tax-exempt. Tax regulations regarding the taxation of important

digital assets, which do not aim to include digital services in a broader sense, are still in the draft stage.

Although virtual money is common in Turkey, it has yet to regulate the taxation of earnings from virtual or cryptocurrencies. The "Regulation on Not Using Crypto Assets in Payments", published in the Official Gazette dated 16.04.2021 and numbered 31456, stated that virtual currencies could not be used directly or indirectly in payments even though they are listed as payment options in international trade agreements arrived today. As a result, crypto assets were defined by Turkish law for the very first time. Although there is no regulation on the taxation of cryptocurrencies in Turkey, the developments on the subject are as follows.

- In 2013, the Banking Regulation and Supervision Agency ("BDDK") stated that cryptocurrencies are not electronic money.
- In the New Economy Program published at the end of 2020 stated that tax regulation is planned for the "acquisition, purchase, sale and transfer" transactions of crypto financial assets between 2021 and 2023.

Within the scope of the "Economic Reform Package" and "Economic Reforms Action Plan" announced on 03.2021, under the coordination of the Ministry of Treasury and Finance, the efforts to establish the virtual money's economic, technological, and legal infrastructure will be completed until 31.12.2021 by the Capital Markets Institution, the Revenue Administration, the Central Bank of the Republic of Turkey "CBRT" and the BRSA (Kılınç Hukuk & Danışmanlık, 2021). Considering the discussions on the subject in Turkey, it may be possible to qualify virtual currencies as commodities (Ersoy, 2021).

In Turkey, there is not yet a Court of Cassation decision regarding the legal nature of cryptocurrencies or virtual items and whether they can be subject to virtual property. However, in April 2021, a local court dismissed an appeal against a decision by the enforcement office stating, "account holding a debtor's cryptocurrencies can be seized", with the view that "cryptocurrencies can also be considered commodities and securities". In other words, it has given the decision that they can be seized (Yıldırım, 2021).

5. Conclusion

About 3 billion people around the world play in the virtual game world, and the game world represents an industry of approximately 200 billion dollars, which constitutes a large spectrum of software, hardware, and intellectual property. Virtual worlds play a leading role in converging the physical and digital worlds. Some theorists, game developers, and academics now expect that virtual worlds will cease to be virtual and become an extension of the real world.

As the gaming industry becomes decentralised, virtual games can put digital identity, assets, and property in the hands of players. Thus, it can play a role in promoting new paradigms in society. Virtual games, including blockchain technology, will give a sense of

trust to people who buy virtual assets by spending severe time, effort, and monetary gain in virtual realities.

Virtual worlds can be used as a place to gain additional income. However, they can also pose some dangers associated with the digital economy, such as low-level job security, unbalanced relationships between firms, employers, and virtual players, and failure to provide social security. Policymakers need to take these issues into account.

Virtual worlds mean more than virtual game environments. They can change how people perceive and interact with structures like financial institutions, markets, and governments as they create an open creative economy, independent financial system, universal digital representation, and virtual property. Virtual worlds are the first example of the meta-universe discussed in academic circles for the last few years.

The player has property rights over the values in the virtual worlds. For this reason, the player's virtual property rights should be superior to game developers or publishers. User license agreements signed by the player to enter the virtual world may contain provisions that violate or limit the player's property rights. Whether these provisions are valid should be evaluated separately for each case. In addition, the provisions of the Code of Obligations should be taken into account. Legal problems related to virtual property have started to come before courts worldwide. In countries such as China, South Korea, and the Netherlands, it is seen that the courts accept virtual property when such case decisions are examined. A Chinese court has ordered the return of all in-game assets of a player whose account was stolen and valuable virtual items stolen by a company that is the developer of the virtual world Red Moon (Honyue). South Korean courts have regularly considered the forcible taking of a player's virtual items by others as theft (Gemalmaz, 2019).

The existence of many people who spend their time in the virtual game world in Turkey has necessitated the recognition of all aspects of virtual worlds. Now, economic activities in virtual worlds are at a size that cannot be underestimated. There are significant opportunities in these worlds to solve the budget problems of almost all countries worldwide. Turkey made its first legal regulation on the subject with Law No. 7194, enacted in 2019. However, no legal regulation has yet taxed game codes and elements. This means a huge tax loss for the revenue administration. How, by whom and how virtual game characters and items are bought and sold should be monitored and determined closely. The infrastructure related to the subject should be established as soon as possible, and necessary tax regulations should be made. Virtual world economic transactions are almost intertwined with real-world economic transactions, making tax evasion increasingly common. It is possible for the income taxpayer to avoid tax, especially through virtual gaming. The increasing prevalence of such behaviours causes a decrease in country tax revenues and a significant increase in capital flows between the real and virtual worlds. For this reason, tax regulations in virtual worlds should be made to prevent tax avoidance or tax evasion and be implemented with determination.

It is necessary to end the complexity of cryptocurrencies in Turkey and accelerate the work. Cryptocurrencies should be defined as intangibles. The income of miners working under these conditions may be taxed as self-employment income. Taxpayers should be obligated to include their bitcoin revenues in their yearly income tax forms. The gain from the disposal of the cryptocurrency can be considered a business gain or a capital gain. Commercial activities are transactions that involve orders. Regardless, when assessed in cryptocurrency operating income, the tax's subject may be included in corporate tax. In this context, cryptocurrency mining, cryptocurrency trading, and cryptocurrency exchanges comprising ATMs can be counted among the examples of cryptocurrency businesses (Şahin & Çiftçi, 2022: 689). With the regulation to be made, it is important for the crypto asset companies to be included in the scope of the CMB (SPK) and to introduce the minimum capital requirement to protect the investors and public order. Considering the decision of the European Court of Justice to exempt cryptocurrency exchanges from value-added tax, it would be appropriate not to subject the cryptocurrency to VAT (Yüce, 2021). Being that many EU countries have implemented this decision. To ensure tax compliance with the EU, it is necessary to make a regulation in this direction in the tax legislation.

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