

**AN EVALUATION ON HOW COUNTRIES TAX VIRTUAL CURRENCIES:
IS THERE A CONSENSUS EVOLVING?**

by

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ABSTRACT

AN EVALUATION ON HOW COUNTRIES TAX VIRTUAL CURRENCIES: IS THERE A CONSENSUS EVOLVING?

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Background: Tax implications of virtual currencies are a widespread debate that perplexes many governments, policymakers and revenue collection authorities. Virtual currencies are not physical but rather digital, and only exist electronically. Their unique decentralised online exchange platform means that they do not belong to a specific country, jurisdiction or regulatory body and therefore no bank can govern the use or exchange of these currencies. The combination of the above poses unfamiliar challenges to tax jurisdictions regarding how to effectively accommodate and tax these currencies within existing traditional tax systems that were not designed to absorb unconventional technologies.

Main purpose of the study: Using a systematic review, this study aimed to provide a holistic view of the tax implications of virtual currencies globally and whether a consensus on an approach has developed.

Method: Applying a systematic review, relevant secondary data was obtained from quality sources and analysed against predetermined criteria for relevancy. This collective data was scrutinised, and findings were presented and discussed. A conclusion regarding

whether a consensus is evolving on how virtual currencies are taxed was reached and summarised accordingly.

Results: The approach taken in academic literature regarding how to tax virtual currencies varies. Commonly, virtual currencies are simply incorporated into existing tax law; either by incorporating them into current tax law definitions by way of defining what virtual currencies are or by amending existing tax definitions to include virtual currencies. Unavoidably, tax jurisdiction existing laws differ; for example what constitute revenue in nature, capital gains taxes and wealth taxes. Consequently, there will be different tax implications for virtual currencies as well. Therefore, various factors exist that will impact how jurisdictions tax virtual currencies.

Conclusions: The different stages in the lifecycle of virtual currencies are of utmost importance. Once the lifecycle stages are understood, current tax law can be amended to accommodate these stages and bring them into the tax net as either revenue, capital in nature or non-taxable. In conclusion, no consensus has been reached regarding the tax implication on Normal Tax, however promising results exist for Value Added Tax.

Keywords: Virtual currencies; Cryptocurrencies; Bitcoin; Tax; Systematic review.

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LIST OF ABBREVIATIONS AND ACRONYMS

Table 1: Abbreviations and acronyms used in this document

Abbreviation/Acronym	Meaning
BEPS	Base Erosion and Profit Shifting
CBDC	Central Bank Digital Currency, also referred to as E-Rand
CGT	Capital Gains Tax
CIT	Corporate Income Tax
DLT	Distributed Ledger Technology
DTC	Davis Tax Committee
EU	European Union
FTA	Federal Tax Administration
GST	Goods and Service Tax
IAS	International Accounting Standard
ICO	Initial Coin Offering
IFWG	Intergovernmental Fintech Working Group
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
ITO	Initial Token Offering
PIT	Personal Income Tax
OECD	Organisation of Economic Co-operation and Development
OTC	Over-The-Counter
SARB	South African Reserve Bank
SARS	South African Revenue Service
UK	United Kingdom
USA	United States of America
VASP	Virtual Asset Service Providers
VAT	Value Added Tax

CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION

The looming Fourth Industrial Revolution presents unconventional technologies, such as virtual currencies with their unique decentralised online exchange platform (Lerer, 2019:40; OECD, 2020). Virtual currencies are not a coin or piece of precious metal but rather a digital currency that only exists electronically (OECD, 2020:10). Virtual currency(ies) is, therefore, significantly different to normal fiat (physical) currency. It is decentralised which means it does not belong to a specific country, jurisdiction or regulatory body and therefore has no bank governing the use and exchange thereof (Elliott, 2017:3).

New technologies, such as virtual currencies, pose unfamiliar challenges to tax jurisdictions on how to effectively accommodate and tax them. Traditional tax systems were not designed to absorb unconventional technologies, and further struggle to cope with their rapid pace (Bird & Zolt, 2008:3-5).

During 2020, virtual currency transactions rose in popularity and revenue authorities are continuously working to provide clearer guidance on the tax implications thereof (OECD, 2020:3). Various countries, including the United Kingdom (UK) and the United States of America (USA), issued guidance at the outset on how virtual currencies should be taxed in their jurisdictions, to mitigate tax revenue depletion (Intergovernmental Fintech Working Group (IFWG, 2020). However, tax policymakers are in the early stages of considering the tax implications and this remains an area that requires further clarification (IFWG, 2020:4).

Questions to consider are whether virtual currencies are becoming a significant part of the global currency trading and exchange platform as well as if it is worth investing time into how virtual currencies should be taxed. The growth of virtual currencies has been enormous; for example, Bitcoin has grown considerably from its inception in 2009 as per the 2016 Base Erosion and Profit Shifting (BEPS) report issued by the Davis Tax Committee (DTC) (2016). As of February 2021, as the top trending virtual currency, Bitcoin has secured a market capitalisation of over USD 1 trillion and its growth is unparalleled.

Furthermore, there are more than a thousand virtual currencies listed that each have a market cap more than USD 7 million. Lastly, while exploring the virtual currency price index over time it is evident to be volatile and unpredictable (Coinmarketcap, 2021).

Virtual currencies have become a well-established trading currency and public users interpret it as a safe platform for transferring money and making payments (Goel & Mittal, 2020:3). This tremendous growth in virtual currencies and the trust therein by the public have revolutionised the financial sector, creating opportunities in both positive and negative ways (Goel & Mittal, 2020:3).

The question of whether virtual currency holds the future as a trading and payment method is at the heart of most investigations (OECD, 2020:17). The South African Reserve Bank (SARB), for example, has confirmed that virtual currencies are not legal tender in South Africa (SARB, 2021a). The same approach was adopted by the USA and Canada (OECD, 2020:17). A 'legal tender' can be defined as a medium of currency that is accepted as a trading and payment method in a specific jurisdiction (Goldberg, 2009:2). Once a currency is approved as a legal tender in a specific country, buyers can go as far as to force a seller to accept these payment methods (Goldberg, 2009:2). However, sellers are also provided with the choice to allow virtual currencies as a payment method, even though it is not recognised as a legal tender by the local bank regulatory (Goldberg, 2009:2). One such case is where successful American car dealer, Tesla, announced during 2021 that they will accept virtual currencies as a payment method for their cars; whilst simultaneously launching their own virtual currency - XÆ A-12Coin - a mere week later (Carbuzz, 2021).

Regardless of central banks being hesitant to declare virtual currencies as legal tender, emerging technology companies such as Tesla and Microsoft are in support of virtual currencies as trading and payment methods (Beigel, 2021; Carbuzz, 2021). One might jump to the conclusion that only technology-driven companies would accept virtual currency, however, branches of certain food companies, such as KFC in Canada and Burger King, Subway and Pizza Hut in Venezuela, accept virtual currencies as a payment method (Beigel, 2021).

The SARB has recently embarked on a study to consider the desirability, feasibility, and appropriateness of a central bank digital currency (CBDC), also known as E-Rand, as

electronic legal tender. This E-Rand digital currency will be for general purpose retail use, complementary to cash. A retail CBDC can be defined as a digital form of cash aimed at providing the best attributes of both cash and electronic payments. The CBDC feasibility study is expected to conclude in 2022 (SARB, 2021b).

From the above, it is evident that a variety of companies do accept virtual currencies as a payment method that might pave the way for further growth in the popularity of virtual currencies. This popularity of virtual currencies, alongside the new knowledge that SARB is looking into the feasibility of an E-Rand, strengthens the need to understand virtual currencies and how they should be taxed.

The future will have virtual currencies as a trading and payment method and it is therefore of utmost importance for revenue authorities to provide clear guidance on how these transactions should be taxed to avoid missing out on tax revenue. One would assume that virtual currencies could easily be brought into the tax net and taxed accordingly, but various factors and complexities contribute to the valuation and taxing of virtual currencies (OECD, 2020:41).

The available literature on how virtual currencies are taxed around the world is quite jurisdiction-specific, with some providing little to no guidance (OECD, 2020:21). This study will provide a background on the lifecycle stages of virtual currencies and explore the different approaches applied by various jurisdictions on how they tax them. This study aims to use these results to consider whether a trend is developing in the approach taken by jurisdictions to guide an efficient method of taxing virtual currencies.

1.2 RATIONALE FOR THE STUDY

Virtual currencies are gaining both trust and popularity in the public eye (Goel & Mittal, 2020:3). Concurrently, revenue depletion is a risk, with fiat currencies being put aside and virtual currencies being used as a substitute payment and trading method. While the tax implications of virtual currencies remain unclear and/or are difficult to interpret, revenue depletion is inevitable and should raise a red flag which needs to be addressed forthwith (IFWG, 2020). Two questions thus arise:

1. Will virtual currencies become a recognised payment method in most jurisdictions and possibly a legal tender in the near future?
2. What tax implications will arise from virtual currencies?

This study aims to critically review the existing literature on how virtual currencies are taxed. Before the tax implications of virtual currencies can be understood, it is important to explore the lifecycle stages of virtual currencies, in order to fully understand and identify the different tax implications imposed over the lifecycle. Thereafter, conclusions must be drawn on possible best practice trends to enable tax authorities to make informed decisions on how to tax virtual currencies.

For this study to dive deeper into the connection between the lifecycle of virtual currencies and the tax implications thereof, it will explore a variety of sources. This will be done by analysing existing data and determining whether there is a trend evolving in the approach taken. Although this study is limited in scope, it presents an important step towards a more comprehensive understanding of the approach taken to tax virtual currencies. This study will, therefore, mainly focus on the lifecycle and tax implications of virtual currencies, followed by whether there is a consensus developing on how countries tax virtual currencies.

1.3 RESEARCH PROBLEM

The research problem emphasises the starting point for the research and is a unifying thread that is identifiable throughout the research endeavour (Leedy & Ormrod, 2005). This study's research problem was born from the fact that several jurisdictions have not yet provided taxpayers with clear guidance on how to tax virtual currencies (IFWG, 2020:4). Revenue authorities and academic literature lack comprehensive guidance or a completed framework on how virtual currencies should be taxed, which may be attributable to the complex nature thereof (OECD, 2020:8). Only once policymakers obtain a comprehensive understanding of virtual currencies can they take further steps to develop a clear tax policy. A clear tax policy will enable taxpayers to ensure they comply with the rules and assist jurisdictions to monitor tax compliance. In the meanwhile, these uncertainties have a direct impact on tax compliance and contribute to tax revenue depletion (OECD, 2020).

This study, therefore, aims to provide a holistic understanding of virtual currencies with their tax implications, and the most common approaches taken by jurisdictions to tax them whilst identifying a trend or consensus in the results, through a systematic review of literature relating to the taxing of virtual currencies. The systematic review focuses on recent publications; the methodology applied in obtaining data is discussed in further detail in Chapter Three.

1.4 RESEARCH QUESTION

The research question of the current study is formulated as follows: Is there a trend or consensus evolving on how different jurisdictions tax virtual currencies that can assist policymakers at an early stage, to develop clear tax policies on how to tax virtual currencies?

1.5 RESEARCH OBJECTIVES

In order to answer the research question by following a systematic review, it is important to evaluate what has been published on the taxing of virtual currencies. Thus, the research objectives of the current study are:

- To understand the life-cycle of virtual currencies;
- To evaluate and explore the type of taxes and tax events that are under investigation in these studies; and
- To assess how different jurisdictions tax or intend to tax virtual currencies.

1.6 STRUCTURE OF DISSERTATION

The following section sets out the chapter layout of the study and provides a concise explanation of the content of each chapter.

1.6.1 Chapter One: Introduction

This chapter set the tone for the study, as well as what could be expected. It included background on the topic, the rationale for the study and the research question to be

answered by way of addressing the research objectives. Chapter One also outlines what to expect from each chapter.

1.6.2 Chapter Two: Literature review

Chapter Two contains a concise literature review of existing data. It focuses on what virtual currencies are and how they work; more specifically, what makes distributed ledger technology (DLT) so unique. Finally, the chapter includes a detailed look at the different lifecycle stages of virtual currencies.

1.6.3 Chapter Three: Research design and methodology

Chapter Three hinges around the research design and methodology applied for conducting the systematic review. This chapter provides the reasoning for the use of a systematic review. It further explains the research design and methodology taken and why it was appropriate. These explanations include the predetermined inclusion and exclusion criteria for the database selection process.

1.6.4 Chapter Four: Data analysis

This chapter analyses the data collected as referred to in Chapter Three, through a systematic review to answer the research questions and objectives. The key findings are brought together and summarised in the study.

1.6.5 Chapter Five: Conclusion

This chapter provides a summary of the study by illuminating the process followed, as well as the results obtained for the systematic review. The emerging themes and areas identified in Chapter Four are used to conclude the research questions and objectives. Furthermore, this chapter sheds light on the limitations of the study and suggests recommendations for future research.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

Chapter One referred to virtual currencies being decentralised with the use of DLT. The way this technology works rules out any bank involvement, as well as exchange controls which contribute to the popularity of virtual currency. This chapter will discuss what ‘decentralised’ read together with DLT means with regards to no bank involvement. Once this unique technology process is understood, the chapter will explore the different lifecycle stages of virtual currencies, which inevitably drive the tax events thereof.

2.2 AN OVERVIEW OF VIRTUAL CURRENCIES

To deepen the understanding of what makes virtual currencies so unique, the technology used by virtual currencies is briefly explained. Not many anticipated virtual currency’s popularity to grow at the rapid rate that it has (Bolt & Van Oordt, 2020:837). Its decentralised characteristic rules out exchange control requirements that speed up transactions and largely contribute to its popularity (Xu, 2019:2693). It is important to understand the technology behind virtual currencies to fully understand some of the challenges it might pose.

Virtual currencies make use of a newly developed technology that rules out the exchange control limitations imposed by banks for cross border transactions. All transactions entered into (even with virtual currency) require some sort of validation to prove the transaction’s authentication and validity, called DLT (Elliott, 2017:3). DLT is developed to validate a specific transaction and allows for the smooth, quick validation and approval of transactions between parties. This process is performed by voluntary participants who are rewarded with a commission. These voluntary participants can, in simple terms, be seen as redefining the role of bankers (VLČEK, 2019:24).

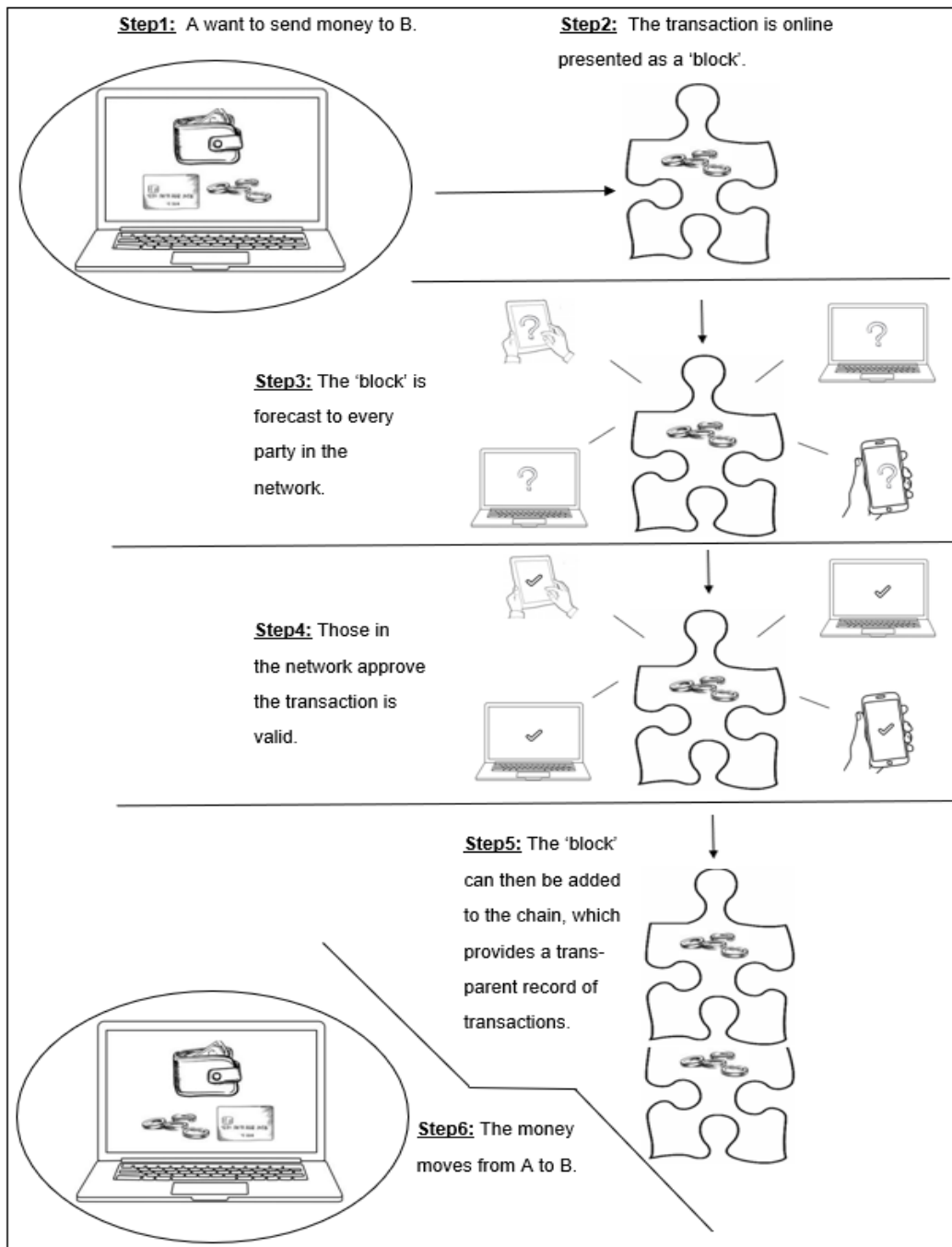
An example of DLT is a blockchain that keeps track of transactions entered into and serves as the backbone of the authentication process (Sunyaev, 2020:21). The blockchain process occurs when a transaction is entered into and an entry goes into a ledger that requires approval (Sunyaev, 2020:22). This ledger is then shared with multiple voluntary

participants, the “bankers”, to concurrently verify the same transaction validity by solving complex equations that serve as proof of work (OECD, 2020:11). Once these participants have performed the proof of work on a transaction, it reaches approval status, and the transaction is concluded. These voluntary participants are also known as miners or forgers and are rewarded with a commission in the form of newly created virtual currencies (OECD, 2020:14).

However, understanding how virtual currencies work through DLT can be daunting. As explained by Botjes (2017), the process of DLT can be summarised in six steps. A visual illustration of these basic steps is presented in Figure 1. The illustration provides a visual understanding of the blockchain process as stated below, whereafter the researcher will discuss the steps in more detail.

- **Step 1:** A customer places an order to enter a virtual currency exchange transaction.
 - **Step 2:** This order is presented in an online network as a “block” containing all the details of the proposed transaction, such as quantity and value.
 - **Step 3:** This block, containing all the details, is presented to all parties within the network, known as the miners.
 - **Step 4:** All the miners on the network consider the transaction’s validity and provide their approval so that the transaction can proceed, similar to the authentication process.
 - **Step 5:** After the transaction is approved, the order, now finalised and approved, is added to the ledger containing all the blocks in the order they were approved, known as the blockchain.
 - **Step 6:** All parties involved in the specific transaction are notified that it was successful.
- (Botjes, 2017)

Figure 1: Blockchain



Source: Author's own, based on source (Botjes, 2017).

As can be seen from the figure above, the DLT process can be summarised into six easy steps. These steps serve to give a better understanding of the DLT's decentralised nature, as well as why there is no bank involvement in the process. It is important to note that these transactions, as recorded in the blockchain, remain anonymous (IFWG, 2020).

As a blockchain is recorded anonymously, the transaction cannot be traced; this makes tax compliance monitoring difficult for tax authorities globally. Several types of transactions can occur using virtual currencies and should be thoroughly understood before tax policymakers can introduce new tax laws or define how virtual currencies can be accommodated into existing rules (OECD, 2020:54).

There are two broad categories that virtual currency activities can be divided into, namely the creation of new virtual currency tokens, and subsequent exchanging of these tokens (VLČEK, 2019:37). Newly created tokens are represented by airdrops that are free tokens given away as well as tokens provided to miners and forgers for their proof of work performed on the DLT (Vaivade, 2020:24). New tokens can also be represented by new traders buying virtual currency tokens. Existing tokens or the exchange of existing tokens occurs when virtual currencies are bought, sold or traded for another virtual or fiat currency (Vaivade, 2020:18). These types of activities will be explained below.

The next section explores the lifecycle stages of virtual currencies. This will ensure a deep understanding thereof before Chapter Four's data analysis can identify the different tax implications imposed over the lifecycle and draw conclusions on possible best practice trends, which would enable tax authorities to make informed decisions on how to tax virtual currencies.

2.3 THE LIFECYCLE STAGES OF VIRTUAL CURRENCIES

This section will discuss the lifecycle of virtual currencies, from their creation to storage and transfer, followed through to the exchange and evolution of a virtual currency token. This segment further explores the characterisation of virtual currency for accounting purposes and investigates the legality of virtual currencies and certain bans imposed globally. Lastly, it will explore whether virtual currencies can be defined as 'money'.

2.3.1 Creation

The creation of virtual currency serves as the very first step to avail tokens to potential traders or users. Virtual currency tokens are born in several ways, including proving airdrops to the public, initial token offering (ITO) or through tokens given to miners/forgers

(Vaivade, 2020:24). Refer to Figure 2 for a visual illustration. These creations are discussed in further detail below:

- **Airdrops:** The distribution of new tokens that are freely given away to the public (Vaivade, 2020:24). This is normally done as part of a marketing strategy to create awareness of a virtual currency. It should be noted that no services were provided nor work performed by the beneficiary to obtain or be entitled to these tokens (OECD, 2020:13).
- **ITO:** Also known as initial coin offering (ICO), ITO occurs when there is a potential user who puts in an offer to purchase virtual currency tokens. Upon a purchase request, new virtual currency tokens are created and distributed to the purchaser for consideration in either existing virtual currency or normal fiat currency (OECD, 2020:13).
- **Mining:** Miners provide a service very similar to our commonly known bankers. Miners perform validation work on the DLT platform to approve new transactions as authentic and valid, which, as mentioned, is known as proof of work (Hsieh, 2019:1086). Miners are rewarded for their proof of work services with newly created virtual currency tokens. These tokens can also be described as a form of commission (Hsieh, 2019:1086).
- **Forging:** This process is much like mining, however, recipients use a proof of stake mechanism, rather than a proof of work method to verify transactions (OECD, 2020:13).

2.3.2 Storage and transfer

Similarly to how we store our fiat currency in bank accounts, virtual currency tokens users require an account referred to as a “wallet” (OECD, 2020:13). There are several electronic wallets available, namely:

- **Hot custodial wallet:** This is a wallet managed by a third party, who, upon request, gains access with the user’s privacy keys (Conlon, Vayser & Schwaba, 2019:31).
- **Hot non-custodial wallet:** This wallet is downloaded and managed by the user. Thus, this wallet will be a self-used application, and the user owns the privacy keys (Conlon *et al.*, 2019:31).

- Cold hardware wallet: This wallet includes a hardware device such as a USB or flash drive that can be inserted into a computer and connected to the internet to access the wallet and privacy keys (Conlon *et al.*, 2019:31).
- Cold paper wallet: This is an offline wallet that consists of pieces of paper showing the privacy keys. These pieces of paper can be obtained by downloading software onto a computer and running the application offline to generate the privacy keys (Conlon *et al.*, 2019:31).

When a new transaction is entered into, the seller of virtual currency tokens signs-off on the offer using their private key (Blandin, Cloots, Hussain, Rauchs, Saleuddin, Allen, Zhang & Cloud, 2019:21). The miners on the platform can confirm the privacy key and authenticate that the seller has sufficient funds to enter the transaction. The transaction is validated by the miners and then time-stamped as “confirmed”, forming part of the DLT ledger trail in chronological order. This ledger trail of transactions is commonly referred to as a blockchain (Blandin *et al.*, 2019:15). Refer to Figure 1 for a detailed illustration of the DLT transaction process.

2.3.3 Exchange

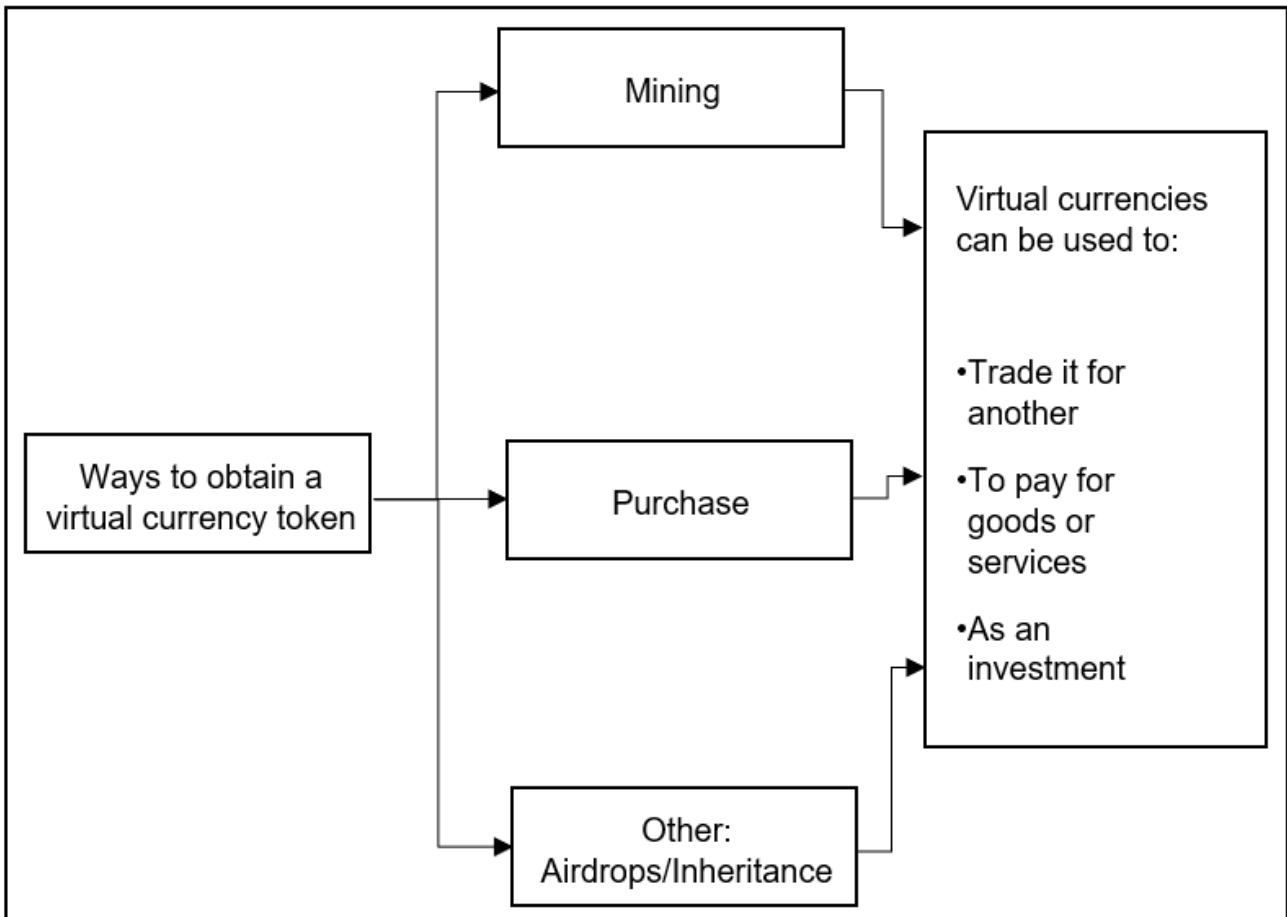
The exchange of virtual currencies can occur by using virtual currency exchange or using an over-the-counter (OTC) broker to facilitate the exchange. The transaction can include virtual currency tokens bartered for other virtual currency, for fiat currency or the payment of goods and services (OECD, 2020:14).

- Virtual currency exchange: An online system that allows users to exchange virtual currency tokens for another item, such as another virtual currency, fiat currency or as payment for goods and services (OECD, 2020:14).
- OTC broker: When a broker is brought in to do the exchange of virtual currency for another item on behalf of the user. These transactions can occur online and offline, depending on the broker or third party. OTC transactions are also higher in volume in comparison to virtual currency exchanges (OECD, 2020:14).

Exchange platforms and brokers are known as Virtual Asset Service Providers (VASPs) and are not regulated by most countries. It should, however, be noted that the European

Union (EU) introduced a directive in 2018 to limit the anonymity relating to virtual currencies. This directive applies to all entities serving as VASPs and is being regulated by the EU (European Commission, 2010). Figure 2 below showcases the different options of how virtual currencies can be obtained and used.

Figure 2: Visual simplistic explanation of virtual currencies usage



Source: *Author's own*

The abovementioned paragraphs explained the lifecycle of virtual currencies. It should be noted that technology improves over time, which can give rise to changes in how distributed technology works. Therefore, the following section will provide a basic summary of these changes without going into extensive detail.

2.3.4 Evolution of a token

There are various types of virtual currencies with different underlining protocols. As these different virtual currency protocols aim to merge, a change is needed to accommodate further functions. An example of a change in protocol in virtual currencies is enhancing the speed that a transaction can be processed and achieved by changing how much data is included in each block of chain (OECD, 2020:15).

These changes are referred to as forks in the chain and require the users to update the software they use to accommodate new protocols. In order to implement a fork, the majority of users should agree to the new protocol change (Conlon *et al.*, 2019:40-41). There are two main types of forks that can be implemented, namely:

- A hard fork: This is where a separate protocol code is created under a new blockchain that runs concurrently with the old version (Paul, 2021:31). Thus, the old protocol code and new protocol code blockchain will run alongside each other, with the new one having its own token.
- A soft fork: This is where the whole protocol code is changed and is adopted by all users. Thus, no new blockchain or token is created (OECD, 2020:15).

The sections above have unpacked what DLT is and how it works. Furthermore, they have thoroughly explored the different lifecycle stages of virtual currencies that are critical to understand in preparation for the data analysis chapter (Chapter Four). The next section explores the characterisation of virtual currency as well as accounting classification, legality and certain bans imposed on virtual currencies by countries. The section will also explore whether virtual currency can be seen as 'money', alongside its expected tax implications.

2.4 THE CHARACTERISATION OF VIRTUAL CURRENCIES

An in-depth understanding of the characterisation of virtual currency plays an important role in establishing a foundation to grasp how it can fit into existing tax systems. Countries have previously considered virtual currencies to be a form of property, with the minority seeing it as a foreign fiat currency (OECD, 2020:15). Virtual currency classified as property

can take on many forms, such as intangible assets, commodities, or financial instruments. Thus, this section will discuss the classification of virtual currencies.

2.4.1 Accounting classification of virtual currencies

As it stands, there is no specific formal guidance available on how virtual currencies should be treated for accounting purposes (OECD, 2020:15). In such a scenario, one must revert to applying existing accounting principles, which would require that the assets be classified according to their economic properties (PWC, 2019). Depending on the type of token and rights accompanying it, the accounting classification might differ and a 'one size fits all' principle cannot be applied (PWC, 2019).

Virtual currencies are accepted as intangible assets for accounting purposes (OECD, 2020:16). In support of this, the International Financial Reporting Interpretations Committee (IFRIC) refers to International Financial Reporting Standards (IFRS) International Accounting Standard (IAS) 38, which defines intangible assets as "identifiable non-monetary asset[s] without physical substance" (IFRS, 2019). As such, virtual currencies do fit into this definition, since the currency can be separated from the holder and the holder does not have a right to a fixed number of units of currency, making it an "identifiable non-monetary asset[s] without physical substance" (IFRS, 2019). However, IFRIC states that virtual currencies cannot be classified as financial assets or cash (IFRS, 2019). IFRIC also notes that should a user hold virtual currency tokens in the ordinary course of business (for sales), it should be accounted for as inventory per IFRS IAS 2 (IFRS, 2019). This scenario will typically apply to short-term traders in virtual currencies.

An OECD questionnaire includes results from 43 countries and investigates whether they have guidance available in their jurisdiction for the classification of virtual currencies. The results reflected that 13 of the 43 countries responded "No" while 30 said "Yes" (OECD, 2020:16). From the results, it is evident that there are uncertainties on how virtual currencies should be classified in certain jurisdictions. However, from the IFRS guidance provided, virtual currencies appear to either be an intangible asset for accounting or trading stock.

It should be noted that the accounting classification does not dictate the tax classification. The tax classification would need to be determined according to the tax law of each jurisdiction.

2.4.2 Legality of virtual currencies

As the popularity of virtual currency usage increases worldwide, there is more pressure on tax policymakers to explore legal frameworks. The vast majority of countries do allow for the trade in virtual currencies (De Caria, 2017:105). However, others make it clear that virtual currencies are not seen as legal tender, such as South Africa (OECD, 2020). Some jurisdictions have imposed a complete or partial ban on the use of virtual currencies (OECD, 2020).

Partial bans will typically focus on prohibiting certain activities within the virtual currency's lifecycle (OECD, 2020). The bans on virtual currency use can be divided into the following groups:

- **General ban:** This category bans the full use of virtual currencies, including the sale, purchase or payment involving virtual currencies. Jurisdictions that implemented this ban include Morocco (Elouazi, 2017), Russia (Forbes, 2020) and Saudi Arabia (Saudi Arabian Monetary Authority, 2020).
- **Ban on commercial trading platforms:** This partial ban category prohibits commercial use on trading platforms, as was done in China. This ban category is sometimes split further to apply to either local and/or international trading platforms (BeInCrypto, 2019).
- **Ban on using virtual currencies as means of payment:** This category has a partial ban where the payment for goods and services using virtual currencies is barred. Jurisdictions that implemented this ban include Ecuador (Banco Central del Ecuador, 2018) and Indonesia (Bank Sentral Republik Indonesia, 2018).
- **Ban on ITOs:** This category has a partial ban where ITOs are prohibited. Jurisdictions that implemented this ban include China (BeInCrypto, 2019) and Korea (Reuters, 2017).
- **Restriction on the financial sector:** This category is a ban placed on regulated financial institutions from engaging in virtual currency activities. This includes both direct

engagements in their own capacity and indirect involvement such as through a broker. Jurisdictions that implemented this ban include China (BeInCrypto, 2019), Colombia (Superintendencia Financiera de Colombia, 2017) and Thailand (The Law Library of Congress, 2018).

Egypt had previously imposed a general ban on virtual currencies but has subsequently reconsidered its stance and now allows virtual currency trading for business purposes if a license has been obtained from the central bank (Daily News Egypt, 2019). Other countries that changed their approach include India, Pakistan and Vietnam (OECD, 2020). This provides evidence that jurisdictions are open to reconsidering their stance on whether the use of virtual currencies is (or should be) allowed.

2.4.3 Virtual currencies and fiat currencies

For virtual currencies to be classified as actual currency (and thus money), a few elements must be present. The item in question should i) have a representation value, ii) be issued by a publicly regulated authority and iii) be recognised as a legal tender by at least one jurisdiction (European Commission, 2010).

From the above, it is evident that virtual currency will not meet all the requirements of a currency to be classified as money. It does not have a representation value with an underlying value being created, for example by precious metals. Further, virtual currencies are not issued by a publicly regulated authority, such as a central or global bank. Therefore, virtual currencies cannot be associated with or classified as money (European Commission, 2010). However, as eluded to in Chapter One, some companies such as Tesla and Microsoft do accept virtual currency as a payment method (Beigel, 2021; Carbuzz, 2021).

This inclusion of virtual currency by a select few companies provides even more uncertainty for policymakers and taxpayers. From the above, it appears that it is simply easier to state what virtual currency isn't (not a currency or legal tender) as opposed to creating a definition of what it is (OECD, 2020:20).

2.5 POSSIBLE TAX IMPLICATIONS OF VIRTUAL CURRENCIES

Healthy debates regarding the tax implications of virtual currency are to be expected. All transactions, be they newly created tokens given away in the form of airdrops, tokens provided to miners for their work performed, and tokens bought/sold by traders (short-term) or investors (long-term), can set off a variety of tax implications and will be referred to in this study as ‘a tax event’. A tax event can include several tax types, such as Personal Income Tax (PIT), Corporate Income Tax (CIT), Capital Gains Tax (CGT), Value Added Tax (VAT), Goods and Service Tax (GST) (OECD, 2020).

Based on the IFWG report, it appears that tax jurisdictions may have different approaches to taxing virtual currencies. Some may only tax virtual currencies if the user is actively trading with them (commercial usage), while other jurisdictions tax both private and commercial usage. Furthermore, another dividing factor that may be present is to at which point in time over the virtual currency lifecycle tax jurisdictions impose taxes. Some will have the first tax event on creation while others only on subsequent disposal. Lastly, whether the first tax event is on creation or disposal, the tax classification like revenue versus capital in nature may also differ per tax jurisdiction (IFWG, 2020).

In South Africa, the South African Revenue Service (SARS) has indicated that citizens will be taxed on all earnings from virtual currencies. They explained that the existing tax law should provide taxpayers with enough guidance on how virtual currencies will be taxed. That said, the intention of virtual currency activities should be investigated in each scenario to determine the tax nature of income or losses made that can be either on revenue or capital account. Thus, active trading would constitute gross income for the taxpayer while long-term investments might attract CGT on disposal (SARS, 2018).

2.6 CONCLUSION

Chapter Two has set out the lifecycle of virtual currencies, from their creation to storage and transfer, followed by the exchange and evolution of a token. This chapter has further detailed the characterisation of virtual currency for accounting purposes and investigated the legality of virtual currencies. Lastly, the chapter explored whether virtual currencies are ‘money’, and briefly delved into the tax implications that may exist.

Detailed discussions on the tax implications of virtual currencies are explored and analysed in Chapter Four. In the next chapter (Chapter Three), the research design and methodology are discussed. This chapter provides a framework on how secondary data were obtained and analysed for the study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

A research design provides a framework for the research methods and techniques chosen for a study (Walliman, 2017). The framework will guide the reader's thoughts throughout the dissertation. As such, the research methods and techniques chosen for this study are discussed below. The research methods and techniques framework discussed below include the philosophical stance of the study, the nature of the study, reasoning methods, time horizon and unit of analysis of the study.

3.2 RESEARCH DESIGN

The research design is very important and provides an overall strategy on how the different components in conducting a study work together (De Vaus, 2001).

3.2.1 Philosophical stance of the study

The philosophical stance of a study describes the belief surrounding the method used to obtain and analyse information for the study (Crossan, 2003). There are three branches of philosophical stance, namely positivism, interpretivism and pragmatism. This study made use of pragmatism, which is a logical and systematic approach to analysing the data to answer the research objectives (Morgan, 2014). Pragmatism is suitable since the study explored secondary data on how virtual currencies are taxed by various jurisdictions, in order to arrive at a general theory of whether a consensus is emerging.

3.2.2 The nature of the study

The nature of the study can be classified into three groups, namely a descriptive study, casual study and exploratory study. This study made use of a descriptive study that summarises the different views obtained from secondary data to gain a better understanding of the phenomenon (Omair, 2015).

3.2.3 Reasoning methods

Reasoning methods refer to the thought process used to analyse data (Johnson-Laird, 1999). There are three methods of reasoning, namely inductive, deductive and abductive approaches (Zalaghi & Khazaei, 2016). This study made use of inductive reasoning as it has a specific scope leading to a general conclusion (Zalaghi & Khazaei, 2016).

3.2.4 Time horizon of the study

This section refers to the time over which the study stretches; which can be cross-sectional or longitudinal. This study was conducted at a specific time and is thus referred to as a cross-sectional study (Levin, 2006). Published data stretching from the inception date of virtual currencies in 2009 to the present were gathered at a specific point in time.

3.2.5 Unit of analysis

The unit of analysis describes the type of data used in a study. Two types of data can be used, namely primary and secondary data. Primary data can be described as information that is collected by the researcher themselves in surveys that contribute to existing data. Secondary data refers to available literature that was published by previous researchers (Hox & Boeije, 2005).

The unit of analysis for this study was centred around the research question and objectives that had to be answered. This study aimed to work through existing literature to identify a possible trend and therefore made use of secondary data. This study focused on secondary data by way of journal articles and reports pertaining to the title, research question, research problem and research objectives, as the unit of analysis.

3.3 RESEARCH METHODOLOGY

The research methodology adopted by a study governs the quality of the data (Wiid & Diggines, 2009). It is therefore important to fully understand the research methodology applied to obtain an in-depth understanding of the quality of the data used, given the circumstances of the study.

3.3.1 Methodological classification

The research methodology used in a study and more specifically the methodological classification should be suitable to answer the research problem sufficiently (Wiid & Diggins, 2009). The available methodological classifications are quantitative research, qualitative research, and mixed-method research.

Quantitative data refers to information in numeric form, including values and calculations (Babin & Zikmund, 2016). These samples of information are usually large and make use of graphs to visualise the data to the reader. Qualitative data excludes numeric data and focuses on extracting information as text that is then summarised and restated in the researcher's own words (Babin & Zikmund, 2016).

A mixed-method approach exists when one incorporates both these methodology classification methods in one study. This approach is well known to be thorough and eliminate the weaknesses that can exist if only quantitative or only qualitative data are used (Yin, 2006).

This study adopted a systematic review through the analysis of secondary data and thus falls in the ambit of qualitative research. In further support of the qualitative method chosen, data was summarised in text.

3.3.2 Systematised review of the literature

A systematic review is conducted by reviewing existing literature, unpacking the details of the literature and using them to answer the study's research question. A systematic review involves extracting information from secondary data sources, as and if relevant to the study (Booth, Sutton & Papaioannou, 2016).

A significant benefit of a systematic review is that it eliminates any bias since this approach makes use of secondary data, while its downfall is that there might not be sufficient available literature on a certain topic under review (Mallett, Hagen-Zanker, Slater & Duvendack, 2012). This might well be the case regarding virtual currency since it is a new topic and a fair amount of uncertainty appears to exist.

A systematic review process can be described in six steps, as set out below (Kitchenham, 2004):

- Step 1: Search for all relevant publications;
- Step 2: Apply the predetermined criteria to select suitable publications;
- Step 3: Evaluate publication quality;
- Step 4: Summarise the extracted data from all the individual publications;
- Step 5: Interpret the findings; and
- Step 6: Establish a general conclusion.

This study followed a qualitative systematic review and adopted the abovementioned steps for structure and guidance. The first four steps are discussed in Chapter Three, Step Five will be discussed in Chapter Four and the last step is addressed in Chapter Five.

3.4 DATA COLLECTION TECHNIQUE

This section will examine how qualitative data were collected to answer the research objectives. The pre-selected basis for collecting data for this study included keywords and certain search criteria, which are discussed in further detail below.

3.4.1 Selected keywords

Keywords, also known as search criteria, are words that form a fundamental part of what a certain “search” is about (Babaii & Taase, 2013). These keywords provide a researcher with search criteria, which helps narrow down searches when browsing for secondary data.

The keywords were selected by their relevance to the research question of this review. In this study, several keywords were obtained from the study’s title, rationale, research problem, research question and research objectives, to ensure searches were narrowed down and relevant to the study and its aim. These keywords can be seen in Table 2 below.

Table 2: Selected keywords

<u>Initial Topic</u>	<u>Similar Terms</u>	<u>Broader Terms</u>	<u>Narrower Terms</u>
Virtual currencies tax	Cryptocurrencies + Tax Cryptocurrency + Tax Virtual currencies + Tax Virtual currency + Tax	Blockchain Distributed ledger technology Crypto assets	Corporate Income Tax Value Added Tax Property tax Direct tax Indirect tax

Source: Author's own

The keywords determined input data for the search. The initial topic search term was used to search for secondary data, followed by the similar terms referred to above. Broader and narrower terms were then identified but were not used as search criteria.

3.4.2 Search criteria

This section provides a detailed explanation of the search conducted, including the type of data that were selected and filtered for relevancy. The following was considered during the data selection process and is referred to as "Exclusion A":

- This study only considered academic reports, industry reports/working papers and occasionally news articles on the relevant topic.
- This study was not limited to specific countries and included all relevant material, regardless of the jurisdiction or country it related to.
- This study only focused on articles written in the English language, however, articles with a translation function to English were also considered.
- As virtual currencies were introduced in 2009, this study only needed to consider articles from 2009 to the present.
- All searches were conducted through Google Scholar, EbscoHost, ProQuest and Google search for articles and other relevant material published on the chosen topic.

3.4.3 Data collection

The data relevant to the current study were obtained as follows:

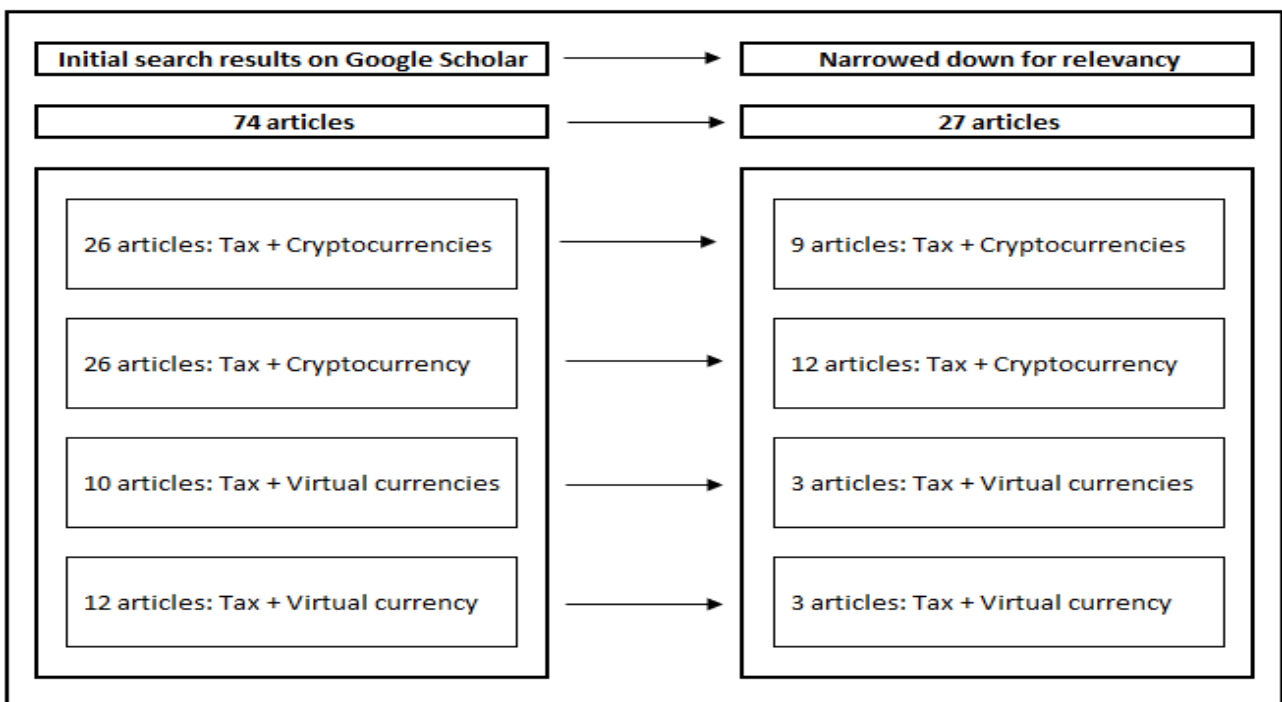
- The "initial topic" and "similar terms" as illustrated in Table 2 were used with a filter applied; those specific terms had to appear in the article title. Further, an English language/translatable filter was in place.

- The findings were considered relevant once the abstract was read. Only publications relevant to the research question and objectives were selected for further analysis.
- As noted earlier, a systematic review may have certain limitations by not having enough secondary data available for topics. This may be the case when it comes to the fourth industrial revolution/developments, such as virtual currencies and the tax consequences thereof. As such, a further search was done to include publications published by regulated tax jurisdictions or bodies, applying the search terms as set out in Table 2.

3.4.4 Data collection results

Searching for “similar terms” on Google Scholar provided 74 articles. These articles were narrowed down to only 27 journal articles by way of applying the first exclusion criteria (Exclusion A - non-relevant articles, articles not in English and articles not in full text). Of the 27 articles, 21 articles were related to the search terms *Tax and Cryptocurrencies* and six articles were related to the search terms *Tax and virtual currencies*. The search criteria process and findings explained above are summarised in Figure 3, which consists of Steps 1-4, mentioned earlier in the chapter (Kitchenham, 2004).

Figure 3: Search criteria results – Google scholar articles overview



Source: Author's own

Table 3: Summary of the countries under investigation in the 27 selected journal articles.

Country	Total journal articles
Brazil	1
Czech Republic	1
European union	1
Poland	1
South Africa	2
United States of America	9
No specific country (relates to blockchain technology)	12
Total	27

Table 3 above categorises the number of articles found per a specific country. Where an article may not have related to a specific country, or alternately where it related to blockchain technology, it was categorised as *No specific country (relates mainly to blockchain technology)*. Within the 27 journal articles, the USA featured more than any other country. Furthermore, after analysing the articles in more detail, only seven articles were found to be relevant for Chapter Four. The seven articles were narrowed down after applying a further exclusion criteria referred to as “Exclusion B”, which entails working through the documents to conclude whether they would be fit for Chapter Four’s framework.

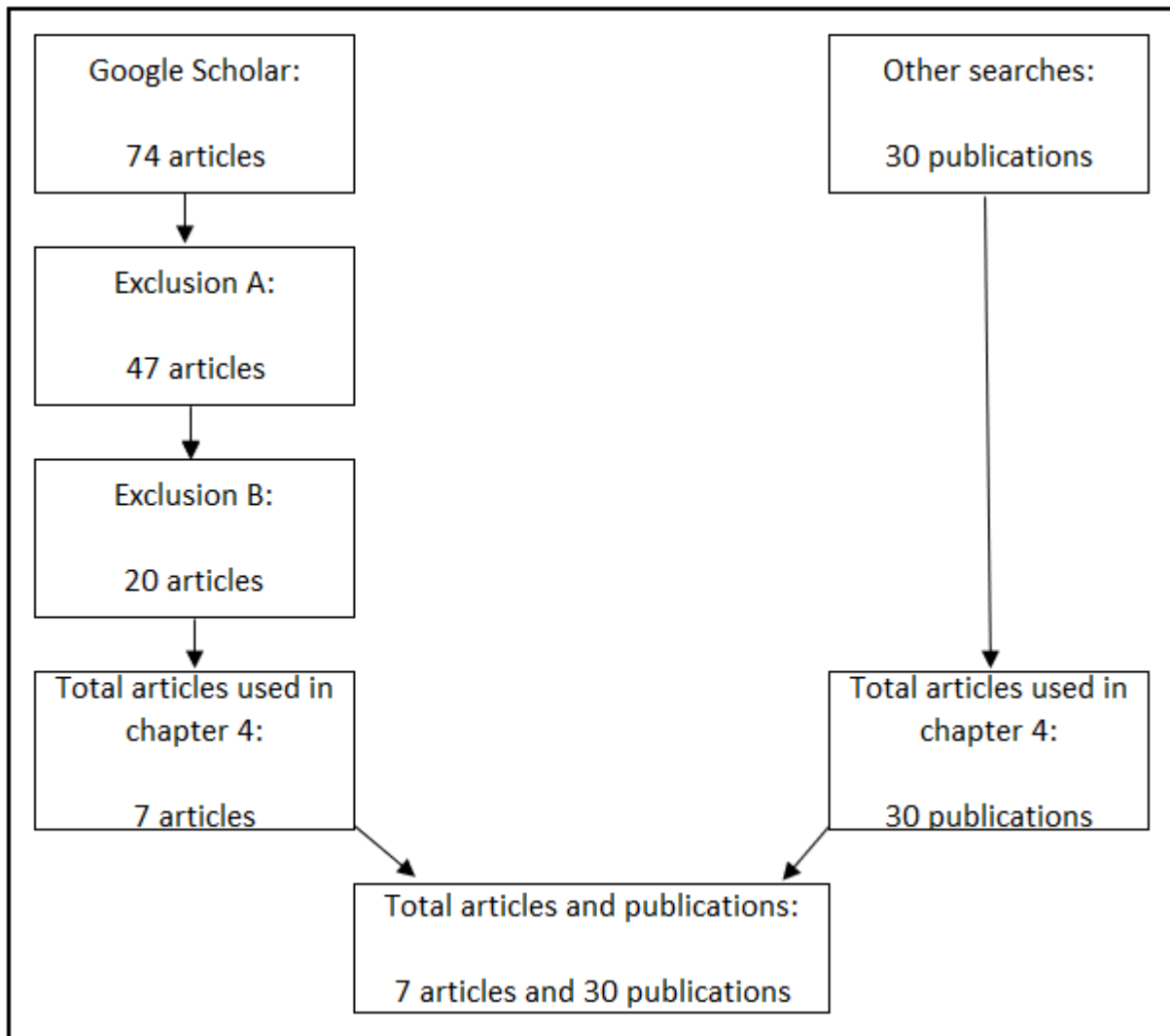
However, as the main objective of this study was to determine whether there is a consensus on how different jurisdictions tax virtual currencies and only seven published journal articles were deemed relevant, a broader set of data was needed. This would assist in addressing the research objectives and answering the research question. Therefore, an additional search was conducted to include publications (other than journal articles) by regulated tax jurisdictions, which produced a fruitful outcome. The results included a further 30 publications that stretched over 15 countries, namely Australia, Canada, EU, Finland, France, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, South Africa, Singapore, Switzerland, UK and the USA, as illustrated in Table 4. These regulated tax jurisdiction publications allowed for a wider spread of data that was used to answer the research objectives.

Table 4: Search criteria results – Other tax jurisdiction publications

Country	Total journal articles
Australia	2
Canada	1
Finland	1
France	1
Italy	1
Luxembourg	1
Netherlands	1
Norway	2
Poland	1
Portugal	1
South Africa	1
Singapore	2
Switzerland	2
United Kingdom	3
United States	1
Tax Union reports	9
Total	30

Figure 4 below summarises the final articles and publications used in the detailed analyses performed in Chapter Four. A total of seven articles and 30 publications were used and analysed in Chapter Four to determine if there is a consensus forming between jurisdictions regarding taxation of virtual currencies. As can be seen in the figure, most of the data were gathered from tax jurisdiction publications (30) that were issued by Government Revenue Authorities and can therefore be seen as reliable and trusted sources of secondary data.

Figure 4: Summary overview of selection results to be utilised in Chapter Four



3.5 DATA ANALYSIS TECHNIQUE

The 37 articles were analysed by way of a thematic analysis. A thematic analysis involves identifying and interpreting themes emerging from the data (Guest, MacQueen & Namey, 2011). This method of analysing data was suitable to address the last two research objectives relating to how virtual currencies are taxed as well as to identify any emerging themes regarding virtual currency taxation (the first research objective on the lifecycle of virtual currencies was already dealt with in Chapter Two).

3.6 CONCLUSION

Chapter Three set out the structure of this study by explaining the research design and methodology applied. In summary, the research design was performed through a systematic review by means of a pragmatic philosophical stance, using descriptive and abductive reasoning at a cross-sectional time by means of qualitative data. The research methodology used certain keywords and pre-set search criteria to narrow down the data for relevancy.

The 37 articles and publications obtained as set out in this chapter are analysed in the next chapter. This analysis established the different approaches applied by tax jurisdictions to the taxation of virtual currencies in order to identify whether emerging themes exist.

CHAPTER FOUR: DATA ANALYSIS

4.1 INTRODUCTION

This section explores the secondary data obtained in terms of the research design and methodology as set out in Chapter Three. The data, as summarised in this section, attempts to address the research objectives and answer the research question of the study. Finally, a conclusion will be reached on the tax implications of virtual currencies.

4.2 TAX IMPLICATION ON DIFFERENT LIFECYCLE STAGES

This section provides an overview of the approach taken by jurisdictions regarding how they tax virtual currency over the different stages of its lifecycle. First, Normal Tax consequences of virtual currencies are explored over the lifecycle, followed by “VAT” and “other taxes”.

For this study, “Normal Tax” includes PIT and CIT. The detailed discussion on whether certain transactions are revenue or capital in nature as referred to in Chapter Two will also fall under the Normal Tax umbrella. VAT and other taxes such as inheritance tax or estate taxes relating to virtual currencies are also addressed in the analysis of the selected articles and publications. These three main tax categories and the accompanying articles and publications used in this chapter can be summarised in Table 5.

Table 5: Types of Taxes under consideration and articles/publications

	Normal Tax	VAT	Other taxes	Total
Reference to tax type in the 37 articles and publications	28	10	4	42*

Source: Author's own

**Some of the 37 articles and publications included more than one tax type adding up to 42.*

From Table 5 above, it is evident that the majority of tax consequences and virtual currencies involve Normal Tax (67%%), followed by VAT (24%) and other taxes (9%).

These articles are discussed below to address the research objectives and research question.

4.3 NORMAL TAX

From the literature review performed in Chapter Two, it is evident that there are different tax implications over the lifecycle stages of virtual currencies. The different stages in the lifecycle appear to give rise to different tax consequences, such as revenue versus capital in nature. The lifecycle of virtual currency has, therefore, been divided into two main events; namely the Normal Tax consequences on i) creation of a token and ii) disposal of a token (OECD, 2020).

4.3.1 Taxable event 1: The creation of tokens (virtual currencies)

The first taxable event for virtual currency arises when it is created. As discussed in Chapter Two, virtual currencies can be created in different ways, including by way of airdrops or tokens given to miners for their proof of work performed. From the above, it appears that revenue authorities have given their attention and focus to how the mining of virtual currencies should be taxed with little focus on airdrops (OECD, 2020:23). This choice is most probably based on attacking the biggest risk since the mining of virtual currencies makes up the bulk of newly created tokens and it is expected that virtual currencies provided in the form of airdrops will have an insignificant value (OECD, 2020). This section will, therefore, focus on how newly created virtual currencies provided as a commission fee to miners are taxed by different tax jurisdictions.

As a starting point, newly created virtual currencies received by miners for their proof of work performed can trigger a taxable event either upon the date of receipt or when the miner disposes of the virtual currencies received. Per a questionnaire exercise performed by the OECD on 47 different countries, the greatest number of countries indicated that the first taxable event will occur upon the date when the miners receive newly created virtual currencies. These virtual currencies will most commonly be taxed at the marginal income tax rates for individuals and corporate tax rates for companies. When the virtual currencies are taxed as income, any costs associated with producing the income are normally

deductible (OECD, 2020:24). Below are examples of countries treating newly created virtual currencies provided to miners as taxable upon receipt:

- Finland: Miners who earn income under the proof of work mechanism would constitute income “other than income from capital” and will be regarded as earnings. Further, any expenditure incurred to produce the income, like buying equipment and paying for electricity may be deducted for tax purposes. However, virtual currency received by miners for using their work performed via forging or proof of stake mechanism is regarded as a return on capital and would be treated as capital in nature (Finnish Tax Administration, 2020a).
- UK: Newly created virtual currencies received by miners are also treated as income and taxable for both individuals and during trade. Non-trade mining income would result in miscellaneous income to be taxed at the value converted to the local currency on the day of receipt while trade income will constitute trading profits, and both be taxed as income. Further, should these virtual currencies be disposed of at a later stage it would attract CGT. Lastly, the UK does not tax airdrops to the extent that no consideration was paid but would give rise to CGT upon disposal (Her Majesty's Revenue and Customs, 2021).
- Norway: Income generated from mining activities are taxed as part of taxable income. The value is further calculated at the market value of the virtual currency at the time of “extraction”. Mining carried out as a business activity would be subject to tax on business profits. If a miner carries out the activities on a low scale, it would not be regarded as business income but rather income from assets with the same result that the value of virtual currencies should be included in taxable income. In both cases, the miner will be allowed to deduct expenditure incurred during the ‘extraction’ process (The Norwegian Tax Administration, 2020b).

Per the OECD, it appears that not many countries treat the first taxable event on the date of disposal. In other words, when the miner exchanges their newly created virtual currencies received. In such a scenario, the full amount received during the exchange would constitute a capital gain less any cost incurred to acquire the asset. The net capital gain may be subject to certain exclusions, reduced rates or exemptions before the net capital gain is taxed under progressive tax rates for individuals or corporate tax rates for companies. Further, some countries have special CGT exemptions that may apply and

result in no CGT being levied upon disposal of the virtual currencies, leaving the amount untaxed (OECD, 2020:25). Table 6 below summarises the data observed across the abovementioned three countries detailing the Normal Tax consequences on virtual currencies obtained through mining, with an identical approach between private and commercial usage.

Table 6: Summary of tax treatment - On creation for mining (identical approach)

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
Finland	Private	x	
	Commercial	x	
United Kingdom	Private	x	
	Commercial	x	
Norway	Private	x	
	Commercial	x	

Source: Author's own

From the above table, it is evident that all three countries tax the mining of virtual currencies on commercial and private use to be revenue in nature. Although Finland, the UK and Norway follow an identical approach between private and commercial usage of virtual currencies, some countries follow a mixed approach between how to tax commercial versus private use. Examples of these countries include:

- Australia: The timing on when virtual currencies would be taxed differs between whether the mining is carried out as a business activity or not. If carried out as a business activity, it would be treated as trading stock income and any fluctuations in value during the year would be regarded as additional income for a gain or deduction of losses. Furthermore, it should be noted that losses may be set off against other trading income. Any expenditure incurred to produce the virtual currencies would be allowed as a deduction. On the flip side, if the virtual currency mining activities are not conducted as part of a business, the mined tokens received would be taxed only at the time of disposal through the CGT regime (Australian Taxation Office, 2020).
- Canada: Virtual currencies acquired through mining activities by way of commercial reasons will constitute business income at the value on that date and be classified as trading stock for tax purposes. However, virtual currencies acquired for speculative investment reasons through mining will only be taxed upon disposal and attract CGT

at that point in time. Any acquisition cost will serve as the base cost that may be deducted from proceeds in determining the net CGT (Inland Revenue Department of Hong Kong, 2020).

- South Africa: SARS has indicated that South Africans will be taxed on all earnings from virtual currencies (SARS, 2018). They explained that the existing tax law should provide taxpayers with enough guidance on how virtual currencies will be taxed. That said, the intention of virtual currency activities should be investigated in each scenario to determine the tax nature of income or losses made that can be either on revenue or capital and will drive the tax consequences. Simply stated, active trading would constitute revenue and gross income for the taxpayer while long-term investments will be on the capital account and attract CGT upon disposal thereof (Kamdar, 2019; Legwaila, 2018).

Table 7 below summarises the data observed across the abovementioned three countries. It details the Normal Tax consequences on virtual currencies obtained through mining with a mixed approach between how private and commercial usage is taxed.

Table 7: Summary of tax treatment - On creation for mining (mixed)

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
Australia	Private		x
	Commercial	x	
Canada	Private		x
	Commercial	x	
South Africa	Private		x
	Commercial	x	

Source: Author's own

From the above table, it is evident that all three countries tax the mining of virtual currencies on commercial use as being revenue in nature. However, to the extent that it can be argued and proved that the mining is not for commercial use, it may be seen as capital in nature and may only be taxed upon disposal. Additionally, in some countries, the mining for virtual currencies as a business activity will be taxable whereas private mining (creation) not at all, such as in:

- Switzerland: Individuals will not be taxed on virtual currencies obtained through mining if it was carried out as private asset management. However, if the same mining activities are bordering on commercial activities, CGT will apply once those virtual currencies are disposed of (Swiss Federal Tax Administration, 2019).
- Singapore: Miners of virtual currencies are taxed if they have any intention of profit-making, gains or losses should be seen as trading in nature. That said, companies engaging in mining activities are seen as having an intention of profit-making and the Normal Tax rules will apply upon disposal of the tokens. However, miners who engage in the mining of virtual currencies as a long-term investment would not be subject to tax on their gains; this exemption from tax may be withdrawn should it become apparent that the taxpayer is engaged in a habitual and systematic effort to gain profits from the activities. Lastly, transaction fees received concerning mining activities will be taxable in all events (Inland Revenue Authority of Singapore, 2020).

Table 8 below summarises the data observed across the abovementioned two countries. It details the Normal Tax consequences on virtual currencies obtained through mining with a simplistic approach where only commercial usage is taxed for mining activities.

Table 8: Summary of tax treatment - On creation for mining (commercial only)

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
Switzerland	Private		N/A
	Commercial	x	
Singapore	Private		N/A
	Commercial	x	

Source: Author's own

From the above table, it is evident that both these countries tax the mining of virtual currencies in commercial use as being revenue in nature. To the extent that it can be proved to be private mining, no Normal Tax implications will arise. It may, however, be subject to CGT later, upon disposal of those private mining tokens.

4.3.2 Taxable event 2: The disposal of virtual currencies

The disposal of virtual currencies is another tax event. The disposals can occur in different forms and include the exchange involving a consideration exchange for normal fiat currencies, for another virtual currency or for goods or services. Other forms of exchange not involving a counter consideration include donations of virtual currencies, inheritance, loss or theft thereof (IFWG, 2020). This section will provide an overview of the tax implication when virtual currencies are disposed of through these different methods. To simplify the different ways of disposal, two main categories have been developed, namely i) the disposal of virtual currencies for consideration, goods or services and ii) the disposal of virtual currencies other than for consideration.

4.3.2.1 The disposal of virtual currencies for consideration, goods or services

The disposal of virtual currencies for fiat currencies occurs often. It should be noted that there are countries that do not tax virtual currencies disposed of for fiat currencies in an individual holder's hand, and only tax profits if conducted as a business through commercial use. These countries include:

- Portugal: A ruling by the Portuguese Tax Authority provided that virtual currencies in the hands of individuals will not be treated as taxable as they do not fall within the definition of capital income nor capital gains for tax purposes. There will, however, be tax consequences should the operations be conducted as a business or professional income activity (Tributária e Aduaneira Aduaneira, 2015).
- Switzerland: The exchange by virtue of buying and selling using virtual currencies is similar to conventional means of payment and no additional tax consequences arise. However, should the way of obtaining the virtual currencies be seen as commercial, the disposal thereof would attract CGT (Swiss Federal Tax Administration, 2019).
- Italy: Normally individuals are not taxed on virtual currencies, except to the extent that they engage on a speculative basis. Any proceeds derived from virtual currencies on a speculative basis will be taxable under the normal Italian individual and corporate tax rates. It is pointed out that the Italian Revenue Authority view "speculative activities" when a taxpayer has for seven consecutive days in a tax year held virtual currencies to the value of more than EUR 51,000. This is clear guidance on when a taxpayer will enter into speculative activities and is a good angle of approach to eliminating

uncertainty around the tax consequences on small portfolios (The Italian Ministry of Economy and Finance, 2016).

- Netherlands: Some countries use a different regime on how to tax wealth. From the above, countries used CGT as a method to tax asset growth. However, the Netherlands uses a different regime. They consider the market value of an individual's net asset or liability each year on 1 January and tax the individual accordingly. If the individual has a net liability market value, no wealth tax is payable. However, if an individual has a net asset market value, the first EUR 30,360 would be exempt and the excess liable for tax at a progressive tax rate. It should be noted that this regime does not apply to companies and would be taxed on profits under the Normal Tax rules (Netherlands Tax Authority, 2021).

Table 9 below summarises the data observed across the abovementioned four countries. It details the Normal Tax consequences on virtual currencies disposed of, with a mixed approach between how private and commercial disposals are taxed.

Table 9: Summary of tax treatment - On disposals (mixed)

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
Portugal	Private	N/A	N/A
	Commercial	x	
Switzerland	Private	N/A	N/A
	Commercial		x
Italy	Private	N/A	N/A
	Commercial	x	
Netherlands	Private		x
	Commercial	x	

Source: Author's own

From the above table, it is evident that only three of these countries tax the disposal of virtual currencies in commercial use as being revenue in nature, while one taxes it as capital in nature (Switzerland). However, when it can be argued that the disposal is not commercial, it may be seen as capital in nature and only taxed upon disposal under the CGT regime. Furthermore, in some cases, no Normal Tax consequences arise for private use.

When considering the exchange of virtual currencies for other fiat currencies, several points were noted among countries. Some countries (as above) will treat the disposal as revenue in nature and other capital in nature, with a further factor being whether it is for commercial or private use. However, there are two countries who have quite a unique approach on how to tax virtual currencies. The first is France, with a tax code which indicates that the exchange of virtual currencies for goods or services will a taxable event. However, the exchange of one virtual currency for another will not have any tax consequences. Further, any virtual currencies obtained through mining will be exempt from being taxed upon receipt (Ministère de l’Economie et des Finances, 2019). Secondly, the Polish have a simplistic approach without many exceptions. They treat the exchange of virtual currency for another as a tax neutral event for tax purposes. They do not distinguish and have different rules when exchanged by an individual or business. They do, however, treat the exchange of virtual currencies for fiat currency, goods or services as a tax event and CGT consequences will arise regardless of whether the taxpayer is an individual or a company (Poland’s Journal of Laws, 2018; Słapczyński, 2019).

Table 10 below summarises the data observed across the abovementioned two countries. It details the Normal Tax consequences on virtual currencies disposed of with a unique approach between how private and commercial disposals are taxed.

Table 10: Summary of tax treatment - On disposal (unique)

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
France	Private	N/A	N/A
	Commercial	N/A	N/A
Poland	Private		x
	Commercial		x

Source: Author’s own

From the above table, it is evident that these two countries have quite a distinctive approach. France only taxes virtual currencies when used to purchase goods or services and Poland has the same approach with an additional rule that CGT will arise when virtual currencies are exchanged for fiat currencies.

4.3.2.2. The disposal of virtual currencies other than for consideration

Virtual currencies can also be disposed of by ways other than for consideration. These exchange methods would include donating tokens, losing them (including theft), or inheritance. On donation of tokens (virtual currencies) the following was extracted from selected publications:

- In the UK, the donor would be taxable upon a donation of virtual currencies and be subject to CGT. The recipient of the virtual currency is deemed to have acquired the item at market value on the date of receipt, less any relief claimed by the donor when paying the CGT for the donation. However, in some cases, the donor may have full relief and not pay any CGT whereas the recipient will take on the donor's base cost and use that for future disposals. However, one exception where CGT will not apply is when the virtual currencies are donated to a charity (GOV.UK, 2021).
- In the USA, a different approach is followed for the donation of virtual currencies. Where any gift is less than USD 15,000, neither the donor nor the recipient will have adverse tax consequences on the exchange of the donation (Hsieh, 2019). However, should the virtual currencies be disposed of later, a capital gain or loss would occur. In this scenario, where a gain is realised the seller would have a base cost equal to the base cost of the person who donated the item to them plus any gift taxes suffered by the donor. Should the subsequent disposal result in a loss, the base cost would be the lesser of the donor's base cost as explained for a gain, or the market value at the time the donation was received. In the event where the recipient of the donation cannot demonstrate what the base cost of the donor was, it would be deemed to be zero when calculating the capital gain or loss (Khandelwal, 2019; Paul, 2021). However, it should be noted that virtual currencies not disposed but donated to charities may be claimed as a deduction against taxable income at the market value of the date so donated (US Internal Revenue Service, 2021).

Table 11 below summarises the data observed across the abovementioned two countries. It details the Normal Tax consequences on virtual currencies disposed of by way of donation and how private and commercial donations are taxed.

Table 11: Summary of tax treatment - Disposed for other or no consideration

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
United Kingdom	Private		x
	Commercial		x
United States	Private		x
	Commercial		x

Source: Author's own

From the above table, it is evident that these two countries have a very similar approach to how the donation of virtual currencies is taxed. Both countries will impose CGT with certain exemptions.

Another exchange method to be considered is when virtual currencies are lost or stolen. Scenarios include where the owner forgot or misplaced their private key and the inheritance of virtual currencies where the private key was not provided or shared with the beneficiary. A study conducted by the *Wall Street Journal* in 2018 concluded that about 20% of Bitcoin tokens are lost (Wall Street Journal, 2018). Furthermore, the theft of virtual currencies has taken place on multiple occasions via hacked wallets and platforms. In 2020, there have been several theft cases recorded. One case resulted in a theft of over USD 25 million in virtual currencies being stolen while another case resulted in a theft of USD 1.4 million of the ICO being hacked (CipherTrace, 2020). Theft or disposal is therefore a significant part of how virtual currencies can be 'disposed' of. Below is some guidance provided by countries on how these cases can be treated for tax purposes:

- In Australia, should the loss or theft of virtual currencies occur, the owner will be allowed to claim a capital loss provided that the taxpayer has the necessary evidence available to prove ownership (Australian Taxation Office, 2020); while
- In the UK, the approach for the loss or theft of virtual currencies is treated differently. Her Majesty's Revenue and Customs (HMRC) consider the taxpayer to remain the owner of the virtual currencies and disregard the loss or theft for tax purposes. In some cases, the owner may however apply for a loss to be recognised (HM Revenue & Customs, 2021).

Table 12 below summarises the data observed across the abovementioned two countries. It details the Normal Tax consequences on virtual currencies disposed of by way; stolen or lost and how private and commercial use are treated for tax purposes.

Table 12: Summary of tax treatment - Lost or stolen

<u>Country</u>	<u>Private vs Commercial</u>	<u>Tax as revenue</u>	<u>Tax as capital</u>
Australia	Private		x
	Commercial		x
United Kingdom	Private	N/A	N/A
	Commercial	N/A	N/A

Source: Author's own

From the above table, it is evident that these two countries have different approaches to how lost or stolen virtual currencies are taxed. Australia will treat it as a capital loss while the UK does not realise any tax thereon.

The above section and supporting tables highlighted the Normal Tax consequences; more specifically whether virtual currencies are treated as revenue versus capital in nature at their creation and subsequent disposal. An analysis of the findings will be summarised in Chapter Five. In the next section of this chapter, the VAT consequences on virtual currency transactions are discussed.

4.4 VALUE-ADDED TAXATION OF VIRTUAL CURRENCIES

The mining, exchange or disposal of virtual currencies may also have VAT consequences depending on each jurisdiction. This section will provide an overview of the approach taken by jurisdictions on how virtual currencies are treated for VAT purposes.

4.4.1 VAT treatment in the EU

The EU has performed a significant amount of work around how virtual currencies should be treated for VAT purposes and it serves as the starting point for this section. The EU VAT Committee (the Committee) discussed the characterisation of virtual currencies that serves as Step One to determine how they fit into existing VAT legislation; thereafter the

Committee narrowed down that it would either be a digital product or a negotiable instrument. The Committee discussed several challenges and it was concluded in 2015 that the most appropriate treatment would be as a negotiable asset. A negotiable asset would be exempt from VAT in terms of Article 135(1)(d) of the EU VAT Directive (European Commission Value Added Tax Committee, 2015; Rieznik, Andriichenko, Inshyn, Maslak & Arsentieva, 2020).

Later, in October 2015, the European Court of Justice (ECJ) ruled in a case between *Skatteverket v Hedqvist* that set out an example for how virtual currencies should be treated for VAT purposes in the EU. Hedqvist intended to provide exchange services via a company to customers for virtual currencies and fiat currencies transactions. The Swedish Revenue Law Commission had found that the exchange service for consideration would be a supply that was exempt under the Swedish VAT law. The Swedish tax authority, Skatteverket, appealed the decision that the services were exempt from VAT and asked the ECJ to rule on two questions: i) whether the exchange of virtual currencies for fiat currencies was a taxable supply under Article 2(1) of the EU VAT Directive; and if so, ii) whether Article 135(1) of that Directive meant that those exchange transactions are exempt from VAT (European Court of Justice, 2015).

The ECJ found that i) the transaction to provide exchange services of virtual currencies for fiat currencies constitute a supply of services for consideration within Article 2(1) of the EU VAT Directive. Now that there are taxable supplies, the next step was ii) whether the supply might be exempt under Article 135(1). Firstly, the ECJ had to interpret the general aim for the exemptions contained in Article 135(1) and concluded that their purpose is to avoid discrepancies between VAT systems. The ECJ further pointed out that the exemptions have a further goal - to ensure VAT compliance while achieving fiscal neutrality. The Court, therefore, ruled that a service performed for the exchange of fiat currencies for virtual currencies, or vice versa, for consideration would be a supply for VAT purposes but in return would be exempt in terms of Article 135(1)(e) of the EU VAT Directive (European Court of Justice, 2015).

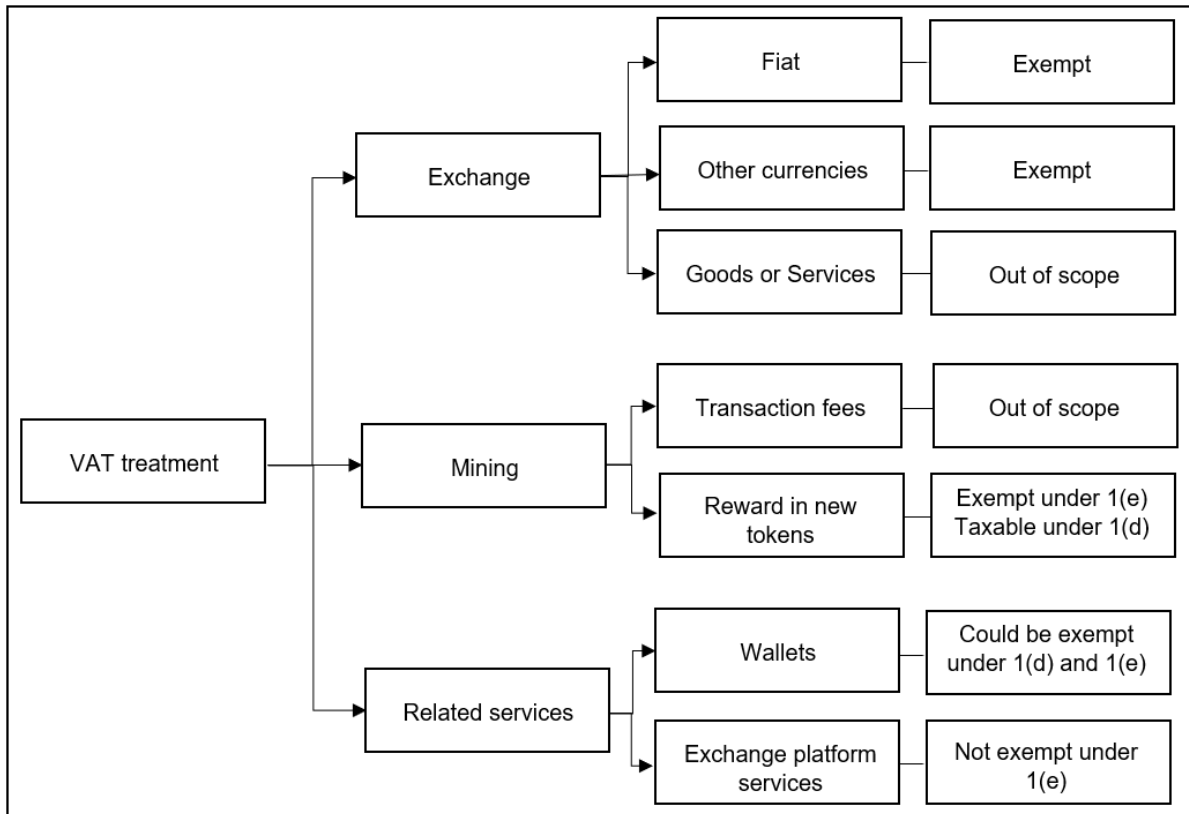
The EU VAT Committee re-considered their stance from 2015 after the Hedqvist decision (European Commission Value Added Tax Committee, 2016b). However, the Committee

exposed the need to consider the VAT treatment of four further scenarios, summarised below:

- Goods and services normally subject to VAT, purchased with virtual currencies: The use of virtual currency to acquire goods or services should not have VAT levied on the virtual currency itself as it is seen as a non-taxable supply. However, the supply of goods and services in exchange for virtual currencies would be taxable and treated the same as if the transaction was paid for in normal currencies (European Commission Value Added Tax Committee, 2016b).
- Service supplied for digital wallets such as e-wallets: Most services provided by digital wallets are free of charge and will therefore not attract any VAT consequences. However, should some of the digital wallet services be charged to a user, they would be seen as a taxable supply for VAT purposes but in return be exempt in terms of Article 135(1)(e) of the VAT Directive. This is in line with the Hedqvist decision (European Commission Value Added Tax Committee, 2016b).
- Verification services of virtual currencies known as mining: The verification process performed by the miners for newly created virtual currencies (commission) would be seen as a taxable supply for VAT purposes. However, it would further be exempt in terms of Article 135(1)(e) of the VAT Directive. This is in line with the Hedqvist decision (European Commission Value Added Tax Committee, 2016b).
- User services provided by platforms to owners of virtual currencies: Services for consideration supplied by exchange platforms who act as intermediaries would be taxable for VAT purposes with no exemption relief. Thus, these service providers will need to levy VAT on their services rendered to the public, file a VAT return and effect payment (European Commission Value Added Tax Committee, 2016b).

The Committee's advice is not legally binding on member states, unlike the ECJ judgement (on appeal). Thus, member states may differ from the guidance provided by the Committee. However, from the minutes of the meeting in September 2016, most member states adopted the guidance provided (European Commission Value Added Tax Committee, 2016a). Figure 5 provides a summary of the European Commission VAT Committee guidance, as discussed in this section.

Figure 5: European Commission VAT Committee guidance



Source: OECD Secretariat, based on the Hedqvist decision and European Commission VAT Committee guidance (OECD, 2020:37).

*Out of scope = Non-supply.

4.4.2 VAT treatment in other jurisdictions

This section explores how other tax jurisdictions deal with virtual currencies and the VAT implications thereof. This may be aligned with both the Committee as well as the Hedqvist decision. This possibility is elaborated on below.

4.4.2.1 Countries inside the EU with their VAT approach taken

- In the UK, virtual currencies received through the process of mining are seen as a non-supply for VAT purposes. This decision was reached as there was no link between the services provided, the consideration received and the customer to whom the service is provided. Furthermore, the exchange of virtual currencies is also seen as a non-supply for VAT purposes. However, it should be noted that in the case where goods or services sold that are normally subject to VAT, payment received for such

products by means of virtual currencies would constitute a VAT supply for the seller. However, services supplied via virtual currencies exchange platforms will be exempt which is in line with the VAT treatment of other financial services (Vatglobal, 2021).

- In Norway, the payments using virtual currencies as well as the exchange of virtual currencies are exempt from VAT. Furthermore, virtual currencies obtained from the mining process would also be exempt from VAT. However, the Norwegian Revenue Authority made it clear that the selling of any computer hardware and/or electricity used by miners are not exempt from VAT. This stance was interestingly taken post the Hedqvist decision. Previously, the Norwegian Revenue Authority did not exempt virtual currency activities (The Norwegian Tax Administration, 2021).
- In Switzerland, a transaction involving virtual currencies is seen as a non-supply for VAT purposes if exchanged for other virtual currencies or fiat currencies. Further, should virtual currencies be used to purchase goods or services, those goods or services would be a supply for VAT purposes. However, it is pointed out that this does not constitute a barter transaction for VAT purposes (Confédération Suisse, 2021).

4.4.2.2 Countries outside the EU with their VAT approach taken

- In Australia, virtual currencies were previously treated as a barter transaction subject to VAT. The rules were subsequently changed; from 1 July 2017, the purchase of goods and services using virtual currencies will not be a barter transaction and therefore not attract VAT for the purchaser, but only for the seller. The exchange of virtual currencies for another or fiat currencies will be exempt together with other financial services (Lupercal Advisory, 2017).
- In Singapore, VAT was levied on virtual currencies up until 31 December 2019. However, the VAT treatment was changed and the exchange of virtual currencies for another or fiat currencies would constitute an exempt supply. Further, the payment for goods and services using virtual currencies will not attract VAT, but the supplier of the goods and services would have normal VAT implications as if the transaction was paid for with normal fiat currency (Inland Revenue Authority of Singapore, 2019).

Table 13 below summarises the data observed across the abovementioned five countries. It details the VAT consequences on virtual currencies disposed of.

Table 13: Summary of VAT treatment on virtual currencies

<u>Country</u>	<u>VAT implication</u>	<u>Purchaser:</u> Payment using virtual currencies	<u>Seller:</u> Receive virtual currencies as payment for goods/services
United Kingdom	Non-supply/exempt	x	
	Normal supply		x
Norway	Non-supply/exempt	x	
	Normal supply		x
Switzerland	Non-supply/exempt	x	
	Normal supply		x
Australia	Non-supply/exempt	x	
	Normal supply		x
Singapore	Non-supply/exempt	x	
	Normal supply		x

Source: Author's own

From the above table, it is evident that the VAT treatment is similar across these five countries. In summary, any payment using virtual currencies, or virtual currency service will be exempt from VAT or constitute a non-supply. On the recipient side, it would constitute a normal VAT supply if the virtual currencies were received as payment for goods or services.

4.5 OTHER TAXES ON VIRTUAL CURRENCIES

There can be other tax consequences on virtual currencies, besides Normal Tax and VAT. This section will investigate whether there is guidance on whether virtual currencies fall within the ambit of other taxes. The countries explored are as follows:

- In the UK, virtual currencies are 'property' concerning inheritance tax law. Thus, virtual currencies would count towards your total estate value that would be subject to tax if the total value of the estate exceeds GBP 325,000. The recipient will in turn pay CGT on any value increases from the date of receipt from the estate (GOV.UK, 2021).
- In Finland, virtual currencies inherited would be taxable in the recipient's hands at the value of the base cost of the deceased. Subsequent gains through the disposal will be subject to CGT (Finnish Tax Administration, 2020a).

In some countries, virtual currencies are caught up by the definition of wealth taxes (other than CGT) and would be taxed under this regime. Below are a few examples:

- In Luxembourg, a wealth tax at a rate of 0.5% is levied on all Luxembourg resident companies and non-resident companies with a permanent establishment in the country. In calculating the tax due on virtual currencies, the item value should be calculated at its fair market value per the provisions of the *Bewertungsgesetz* (local law) (Administration des Contributions Directes Luxembourg, 2018).
- In Switzerland, virtual currencies are seen as moveable capital assets and are taxable under the cantonal wealth tax regime. In calculating the tax due when submitting a tax return, the virtual currencies should be converted to Swiss francs. The conversion rate of popular virtual currencies such as Bitcoin is provided by the Federal Tax Administration (FTA). In the case where the FTA does not provide the market value conversion rate, the virtual currencies should be reported on their year-end at the platform rate where buying and selling take place, at the purchase price (Swiss Federal Tax Administration, 2019).

4.6 CONCLUSION

The data analysis in this chapter considered the Normal Tax and VAT consequences of virtual currencies, while a brief overview was provided on other taxes. From the data observed, it is evident that commercial involvement in the mining of virtual currencies is seen as revenue in nature and taxed accordingly. The private involvement in the mining of virtual currencies has various approaches to how it is taxed. Some countries tax it as revenue in nature, some as capital in nature while others do not tax private usage at all. Additionally, it is evident that commercial and private involvement in the disposal of virtual currencies is country-specific and can either be taxed as revenue or capital in nature whilst some cases do not attract any tax at all.

From the data analysis, it appears that there is a consensus on how virtual currencies are taxed from a VAT perspective. The purchaser will, in most cases, be seen as making an exempt or non-supply when selling their virtual currency or using it to purchase goods or services. The receiving party of the virtual currency will have no VAT consequences unless the virtual currency was received for the exchange of goods and services.

With regards to other taxes and virtual currencies, it is evident that additional wealth tax systems, donations tax or other estate taxes may include virtual currencies. Depending on each country's tax system, the actual tax consequences will differ however, this was not explored in further detail.

An analytical review of the summaries, tables and results conducted above will occur in Chapter Five. The chapter conclude on the Normal tax consequences, VAT consequences and other taxes applicable on virtual currencies.

CHAPTER FIVE: CONCLUSION

5.1 INTRODUCTION

Chapter Five reflects on the study and provides clarity on how the research question was answered, and the research objectives achieved. This chapter elaborates on limitations observed while performing the study. Lastly, this chapter will provide recommendations for future researchers.

5.2 HOW THE RESEARCH QUESTION WAS ANSWERED

Three research objectives were determined in the pursuit of the answer to the research question. Each objective is discussed below.

- *To understand the life-cycle of virtual currencies;*

During the study, it became evident that it is of utmost importance to understand how virtual currency is defined, whether it is a legal tender, the bans imposed on virtual currency, as well as the lifecycle of virtual currency before the tax implications could be explored and understood. The lifecycle of virtual currencies is divided into two categories, namely the creation thereof followed by its subsequent disposal and usage. These events were also identified to be the triggers for tax events.

- *To evaluate and explore that type of taxes and tax events under investigation in these studies;*

The main tax types explored for virtual currencies were Normal Tax and VAT. Only a few countries have explored other taxes when it comes to virtual currency transactions, including estate taxes, donation tax and wealth taxes. However, the tax type with the most transparency was Normal Tax and the debate surrounded whether an activity is a revenue or capital in nature.

- *To assess how different jurisdictions tax or intend to tax virtual currencies;*

Different tax jurisdictions had different approaches on how to tax virtual currencies. The Normal Tax consequences were divided into commercial and private use. Commercial use was treated similarly for mining activities and was taxed as revenue in

nature while the disposal thereof varied. The tax treatment for private use on both mining and disposals fluctuated between revenue in nature, capital in nature or no tax at all. The VAT consequences, on the other hand, appeared to be very similar across all countries with only recipients for the exchange of goods or services seen as a VAT supply. Other tax consequences lacked information and therefore no conclusion could be reached.

In conclusion, the research question “Is there a trend or consensus evolving on how different jurisdictions tax virtual currencies that can assist policymakers still at an early stage to develop clear tax policies on how to tax virtual currencies?” has been answered. The Normal Tax consequences are divided into revenue and capital in nature across the lifecycle stages of virtual currencies for all countries. However, the Normal Tax treatment per stage during the lifecycle of virtual currencies differs per country. VAT appears to have a similar approach across all countries (only imposing VAT on the receiving party of virtual currencies in exchange for goods or services).

Therefore, no consensus was reached for the Normal Tax consequences on virtual currencies across the countries included in this study. The opposite is true regarding VAT consequences.

5.3 LIMITATIONS

Limitations confronted during this study are as follows:

- The literature utilised in this study was not exhaustive, since the study merely reviewed articles published in academic journals and tax jurisdiction reports/working papers (publications).
- Although due care was taken to identify key terms to be included in all relevant searches, some authors might have used different terms to describe taxes on virtual currencies.
- This study only considered publications in English and may have unintendedly prevented exposure to additional publications.

- In line with the requirements of a mini-dissertation and systematic review, the different tax types regarding virtual currencies were not analysed in detail, but on a high-level basis.
- The study only incorporated existing data on countries with published guidance on how virtual currencies are taxed in their jurisdiction. No in-depth analysis was conducted on current tax laws of different jurisdictions to see whether the existing laws already cater for virtual currencies.
- This study focused on the Normal Tax consequences of virtual currencies, followed by VAT, and only briefly discussed other taxes.

5.4 FUTURE RESEARCH

A detailed study with a higher focus on fewer countries and their tax consequences on virtual currencies should be conducted, unlike this study that compared the tax consequences on virtual currencies of many countries based on a high-level review of secondary data. Alternatively, and more importantly, while most countries accommodate the taxing of virtual currencies within existing tax law, a looming question exists - will this be sustainable as new unconventional technologies evolve? Future studies can explore the uniqueness of virtual currencies and determine whether traditional tax law may not be adequate to house unconventional technologies such as virtual currencies. The proposed study can therefore answer whether developing new tax laws to counter new unconventional technologies is more effective than accommodating them into existing tax law.

5.5 CONCLUDING REMARKS

Countries have imposed Normal Tax consequences on virtual currency activities, either as revenue or capital in nature. There is, however, no clear consensus on whether it should be revenue or capital in nature for private and commercial use. VAT, on the other hand, reached a consensus to only levy VAT on the recipient of virtual currencies in exchange for goods or services.

The volatility nature of virtual currencies may give rise to the default nature thereof to be speculative and lean toward revenue in nature, rather than to be held for long-term

investment and capital in nature. This can give rise to taxpayers having a change in intention as the underlying prices swing up and down, which can impact the Normal Tax consequences.

As jurisdictions are leaving the taxpayers to decide and apply existing tax law on whether their virtual currency activities Normal Tax consequences are revenue or capital in nature, uncertainty is evident and, in some cases may prevail. Only the future will affirm whether traditional tax law can absorb the tax impact on unconventional technologies alike virtual currencies.

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