

An analysis of the value added tax implications on crypto currency transactions

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DECLARATION

I declare that: “An analysis of the value added tax implications on crypto currency transactions” is my own work; that all sources used or quoted have been indicated and acknowledged by means of complete references, and that this mini-dissertation was not previously submitted by me or any other person for degree purposes at this or any other university.



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ABSTRACT

Current knowledge or lack of research emphasizes that there are no universal conscientious treatment of the VAT classification on crypto currency transactions. The purpose of this paper was to analyse and evaluate current VAT classifications and to provide guidance on the most favourable way of treating such transactions. The research objectives of this study included the understanding of crypto currencies, an overview of the VAT system, as well as a critical analysis of current VAT classification on crypto currencies worldwide. This study used a descriptive literature review research method. As the world is ever-changing, a proactive approach should be sought, in order to address technological changes. With full consideration of the changing financial landscape, classifying crypto currencies as "money" would be most appropriate solution and further guidance is needed for the treatment of the value, time, and place of supply of such transactions.

Key words:

Value Added Tax (VAT),

Cryptocurrency,

Taxable supply,

Non-taxable supply.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
VAT	Value Added Tax
GST	Goods and Services Tax
ATO	Australian Tax Office
ITD	International Tax Dialogue
GDP	Gross Domestic Product
DTA	Davis Tax Committee
BEPS	Base Erosion and Profit Shifting
OECD	Organisation for Economic Co-operation and Development

CHAPTER 1 - INTRODUCTION

1.1 BACKGROUND

With the increase in popularity of crypto currencies, and its significant growth in value as well as usage, the question arises as to what would be the perfect or ideal way of treating the value added tax (VAT) of such transactions. The VAT system allows the classification of taxable and non-taxable supplies for such transactions. Ultimately, the ideal solution would be to determine the most favourable VAT classification for the treatment of crypto currency transactions for both supplier and recipient.

Crypto currencies may be held solely for investment purposes, or may be traded in exchange for goods and services (Vincenzo, 2018). These transactions for exchange can include the purchase of goods or services from individuals/ persons based anywhere in the world (some of whom may be registered VAT vendors). This includes purchases of household items such as clothes, food, health products and appliances from international and South African businesses that accept crypto currency payments.

Current industry examples of businesses accepting Bitcoin as considerations are Takealot (Mybroadband, 2014), Runaway Sale, Earthchild, Cape Coffee Beans (Business Report, 2017), as well as Pick & Pay in the foreseeable future (Mybroadband, 2017), Taiwanese airline, FAT Taiwan Inc. (Avi, 2018), and Bloomberg (Steve, 2018).

As crypto currency transactions take place it would be necessary to determine the VAT implications of such transactions. One would therefore have to evaluate whether crypto currency transactions meet the requirements of a universal VAT definition, in order to correctly classify such transaction as taxable or non-taxable.

Currently, there are no consensus approaches or treatments regarding the regulations, implementation, and timing of applicable crypto currency transactions (Lansky, 2018). The author suggests that there are five different state approaches to solving the crypto currency puzzle:

- Ignoring: currently, governmental authorities are not dealing with the existence of crypto currencies;
- Monitoring: currently, governmental authorities are not dealing with the existence of crypto currencies;
- Recommendation on treatment: where a governmental authority has recognized the issue of the treatment of crypto currencies and issued recommendations;
- Guidance: where the governmental authority issued guidance on the method of use, specifically in relation to crypto currencies;
- Regulation: where specific regulations for the treatment of crypto currencies are issued, and require authorization from the government state in order to verify that those requirements and regulations are met. For example, Australia developed its own definition of a crypto currency, as well as the treatment and approach of crypto currency transactions as money (Australian Government, 2016), European Union countries adopted the Hedqvist court case (C-264/14) (2005) and are exempting crypto currency transactions from VAT; or
- Ban and integration: lastly, prohibition procedures may be implemented by governmental authorities in instances where dealings of crypto currencies are refused. Examples of countries banning crypto currencies as a way of transacting include China, Iran, Iraq and the United Arab Emirates. Conversely, a government authority can recognise a crypto currency as a currency equivalent to its national fiat currency or even replace its national fiat currency with a crypto currency.

Understanding the nature of crypto currencies, and the various aspects it entails, will be of great value in the pursuit of determining the optimal VAT approach, with consideration of the implications each VAT approach may have, and ultimately, to make informed recommendations on the applications of such approaches.

1.2 PROBLEM STATEMENT

To date, there was no corresponding worldview or classification system for the treatment of VAT in relation to crypto currency transactions (Spruyt, 2018). Countries are governed by

their own laws, regulations and timelines of addressing concerns including treatments of crypto currencies.

As of August 2018, over 1,818 crypto currency specifications existed, from which Bitcoin has the largest market capitalization of \$105,702,899,880, and Ethereum second in line with a market capitalization of \$31, 377,518,176. (CoinMarketCap, 2018). The number of Blockchain wallets has been growing since the creation of the Bitcoin virtual currency in 2009, reaching over 25 million Blockchain wallet users at the end of June 2018 (CoinMarketCap, 2018). From the above it is clear that there is a constant increase in the use of crypto currency transactions due to the trust in the underlying technology on which Blockchains are based (The Statistics Portal, 2018). The usage increase of crypto currencies confirms that this transaction method is growing in popularity, and revenue income can be created for taxation authorities.

This is not an unexplored avenue in the VAT system. To date, no consensus or guidance has been reached regarding the VAT classification or treatment of crypto currencies.

From the above, the following research question can be formulated: Which VAT classification would be most appropriate for the treatment of worldwide crypto currency transactions?

1.3 PURPOSE STATEMENT

This paper aimed to identify and analyse existing VAT classification on crypto currencies, in order to provide a guideline for the application of such regulations in the future. This paper gave insight to the growing world of crypto currencies as well as emphasizing the regulatory impact on tax authorities.

1.4 RESEARCH OBJECTIVES

Main objective:

The main objective was to explore current VAT classification practises, related to crypto currency transactions, of selected countries.

Secondary objectives:

The main objective was realized through the following secondary objectives:

- i. Identification and analysis of the concept of crypto currencies, including the nature, characteristics, as well as the working, obtaining, and usage of crypto currencies. Please refer to chapter 2.
- ii. Evaluation of the fundamental VAT principles from a worldwide perspective, such as taxable supplies and non-taxable supplies. Please refer to chapter 3.
- iii. Critical analysis of current worldwide VAT classification on crypto currencies. Please refer to chapter 4.
- iv. Recommendations and suggestions regarding the appropriate VAT classifications which would be optimal for world tax authorities. See Chapter 4, 5 & 6.

1.5 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY

In the first interim report of the Davis Tax Committee (DTC) on Base Erosion and Profit Shifting (BEPS), it was said that the popularity of virtual currencies for example Bitcoin, are increasing and that South African legislators are encouraged to evaluate the prospective impact of digital currencies on tax compliance, including VAT (Davis Tax Committee, 2014:56).

According to South African revenue trends, for the period of 2016/17, VAT contributed the second highest gross tax revenue by tax instrument with 25.3%. The highest contributor was individual taxes with 37.1% (National Treasury Republic of South Africa, 2018, p.42). Statistics from the 2015 Organisation for Economic Co-operation and Development (OECD) report, indicated that nine of the OECD countries showed the highest revenue contribution due to indirect tax, which included VAT (OECD, 2017b). KPMG indicated that, currently, there are almost 140 countries that charge VAT (KPMG, 2018). In light of the above, it can be confirmed that generated VAT revenues have significant impacts on countries' economies. The above demonstrates a noticeable worldwide increase in the growth and popularity of VAT, and has become a significant factor to consider, especially in terms of countries seeking to boost their revenue income stream and economies.

This study will address this issue by analysing and evaluating current VAT classifications. A recommended VAT classification and treatment for countries to adopt or consider will also be suggested. This study will also bring new insight regarding the implications and benefits of such classifications, and could possibly assist countries currently lacking a view on the treatment of crypto currencies. This will help with the implementation or amendment of current laws or regulations to improve treatment and classification of VAT on crypto currency transactions.

1.6 DELIMITATIONS

This paper focused specifically on the implications current VAT classification systems will have on the VAT treatment of crypto currency transactions. Bitcoin, Ethereum and all other crypto currencies will be treated universally as the same crypto currency. This paper assumed that taxable and exempt supplies are similar in nature, and the treatment and approach thereof could be universally standardized. Recommendations on VAT classifications and the treatment of crypto currencies could be applied and adopted universally.

1.7 RESEARCH DESIGN AND METHOD

A non-empirical research method was applied for this research project as this was an uncertain topic on which new guidance is required. In addition using a descriptive literature review as primarily qualitative data tool was chosen to describe the impact of different VAT classification of crypto currency transactions.

This research method comprised of a new exploration undertaken in order to obtain new knowledge on the VAT classification of crypto currency transactions, however this research method is primarily directed towards a specific practical aim or objective (London's Global University, 2015).

Through the descriptive literature review approach, information was collected that will reveal the relations between the different VAT treatments and serves in support of the appropriate VAT classification on crypto currency transactions (Office of Research Integrity, 2014). This

method was supported by exploratory research and would be qualitative in nature. The objective of exploratory research was to contribute descriptive detail where a small amount of information is currently available (Business Directory, 2015).

The literature review provided an overview of the VAT implications pertaining to international crypto currency exchange transactions. Furthermore, it formed the basis for suggestions made in answering the research question, and further, provide a framework for the evaluation of the current VAT position, and its suitability to the existing international exchange landscape.

Exploratory research was used to provide additional support to the descriptive research as there are currently limited guidance on the VAT treatment of such transactions. No published rulings, relevant publications or interpretation notes were available with the focus on the VAT implications on crypto currency exchange transactions.

Sources of data collection for the research project includes the evaluation of secondary data, such as documents from websites, academic journals, theses, court cases, and previously published reports. The data collected from the above resources were evaluated, analysed and compared in order to provide a guideline for the appropriate application of VAT treatment on crypto currency transactions.

In this research study performed the main research objective was achieved by performing a non-empirical study (Mouton, 2012:54) (literature review) which evaluated the impact of different VAT classifications on crypto currency transactions.

Secondary objectives in this research were achieved through a non-empirical literature review of the VAT position, especially relating to the VAT implications of crypto currency treatment on taxable and non-taxable transactions.

1.7.1 Paradigmatic assumptions and perspectives

A paradigm constitutes the arranging of information within a disciplinary framework in which the research for a project is performed (Pickard, 2013). There are two key philosophical

paradigms, namely ontology and epistemology. The selection of a paradigm approach will be influenced though either the researcher's world views (ontology), or the researcher's grasp of knowledge and justification (epistemology) (McKerchar, 2008).

Process followed in this research project:

- i. Obtained an understanding of the concept of crypto currencies.
- ii. Obtained an understanding of the fundamental principles of the VAT system.
- iii. Identified the disparity in the current VAT treatment of crypto currency transactions worldwide.
- iv. Evaluated the VAT implications on each of the VAT treatments on crypto currency transactions.
- v. Suggested or recommended the most appropriate VAT treatment or classification.

1.7.2 Ontological assumptions

This study followed a relativist view while the research was conducted. The nature of the world is dependent on many alternatives and views (Ahmed, 2008). There is no absolute truth. Truth is an ambiguous term having many meanings and methods of justification (Rorty, 1990).

1.7.3 Epistemological assumptions

In the view that a researcher believes that knowledge is created with epistemological assumptions, and that no ideal or perfect rule exists, this research project will not propose such a rule. The anticipated knowledge gained consisted of multiple assumptions, explicit limitations and should thus be regarded as an in depth understanding of the phenomenon.

1.7.4 Methodological assumptions

Qualitative research was conducted in an interpretivist paradigm.

The interpretivist paradigm provided certain clarity on the social reality and allows the researcher to interpret elements of study. It also included subjective interpretations made by the researcher of the project. Qualitative research did not pose to prove or disprove a

hypothesis, instead rather helped gain answers and a better understanding of the issue (McKerchar, 2008).

The methodological assumptions used included:

- a) Understanding the concept of crypto currencies.
- b) How the VAT system classifies crypto currency transactions.
- c) The VAT implications on the different VAT classifications of crypto currency transactions.

1.8 CHAPTER DIVISION

Chapter 1: Introduction, background, research question and objectives, research methodology

This served as an introduction to the topic of an analysis of the VAT treatment on crypto currency transactions worldwide. This chapter included a brief background statement, problem statement, purpose statement, research objectives, importance and benefits of study and research method adopted.

Chapter 2: The concept of crypto currencies

The objective of this chapter was to identify the definition, nature, characteristics, working and obtaining of crypto currencies. Further statistical evidence was provided to demonstrate the significance of growth and adoption of crypto currencies as accepted currency.

Chapter 3: Fundamental principles of the VAT system relevant to crypto currency transactions

This chapter summarized the fundamental principles of worldwide VAT systems relevant to crypto currency transactions through an overview of these systems, which includes statistical evidence on the evolution and adoption of VAT regulations worldwide.

Chapter 4: Worldview and current crypto currency treatment

This chapter evaluated and analysed the different perspectives and interpretations of the VAT treatment and classification of crypto currencies worldwide. Recommendations on solutions were also made, which may guide policy makers in the treatment of VAT on transacting in crypto currencies.

Chapter 5: Summary and conclusion

This chapter summarized the findings of this study. A final conclusion and suggested recommended solution on the VAT treatment of crypto currency transactions were discussed. Future research and recommendations will also be addressed.

Chapter 6: Future research and recommendations

This chapter summarized areas of future research concepts and provided a recommended approach on the VAT treatment of crypto currency transactions.

CHAPTER 2 - THE CONCEPT OF CRYPTO CURRENCIES

This chapter provides insight and knowledge about crypto currencies, with specific focus on the classification, technology, obtaining, and usage of crypto currencies. Furthermore, statistical evidence to demonstrate the increase of usage and growth in popularity of such crypto currencies will be provided. As the use of crypto currencies increases in popularity, it is important to understand the technology used in such currencies, and ultimately determine whether an appropriate VAT classification can be recommended.

2.1 THE DEFINITION OF A CRYPTO CURRENCY

A crypto currency is an electronic or digital asset with no physical appearance which is controlled by computer codes open to the public, and which does not involve a third party intermediary for example PayPal or Visa (Wicht, 2017). Thus, a crypto currency is an open source peer-to-peer digital currency (Berger, 2016). A crypto currency can be defined as a chain of digital signatures (in the form of a string programmed code) that is stored in the Blockchain. A blockchain is a system that records and maintains transactions made in crypto currency (Pilkington, 2016). It is important to note that a crypto currency is not bound by any central control or regulations of any specific country (Bunjaku *et al.*, 2017).

2.2 THE TECHNOLOGY AND PROCESSING OF CRYPTO CURRENCIES

It is necessary to understand the technology and processing involved in the crypto currency technology to correctly classify it as a crypto currency transaction.

In order to obtain or possess crypto currencies, the user must first download crypto currency management software, for example Luno, AltCoin, or Bittrex. The crypto currency management software connects the user's computer to a peer-to-peer network of connected computers on the crypto currency system, referred to as "nodes" (Akins *et al.*, 2014). With this software a user will now be able to access the crypto currency world for trading or investment purposes. After the successful registration of an account, a virtual wallet is assigned to the account holder (Killian and Malhotra, 2013).

Crypto currency transactions are sent between an owner and receiver (peer-to-peer) using crypto currency wallets. The crypto currency file is then either stored on the seller's computer or an online database, known as a crypto currency "wallet" (Loera, 2015). Each wallet has private and public keys assigned to it. In other words, the public key is the address of the wallet when sending or receiving crypto currencies; however the public key does not disclose any information of the identity of the owner or the transaction and therefore allows for the anonymity of the transaction. The private key is used to authorise the crypto currency transaction by the sending and receiving party (Financial Action Task Force, 2014). Through the authorisation process, the transaction is transmitted to the peer-to-peer network and is included in the history, called "Blockchain" (Akins *et al.*, 2014).

A Blockchain is an endlessly growing list of records, named *blocks*, which are linked and secured using cryptography. The validity of each crypto currency coin is determined by a Blockchain (Narayanan *et al.*, 2016). Each block typically contains a hash, which is a specific class of functions that can be used to map data from a random size to a fixed size to ensure integrity, which is used as a pointer to link information to a previous block and timestamp the transaction data (Azaria *et al.*, 2016). Blockchains are naturally resistant to alteration of the data. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way" (Iansiti and Lakhani, 2017).

Crypto currency transactions relies on cryptography techniques that are used to secure data transmission between a seller and recipient (Saroj *et al.*, 2015). Each crypto currency and each crypto currency owner is encrypted with a distinctive identity for identification. Crypto currency transactions works similar to debit and credit card transactions as a complex system records the transactions. The main difference between a debit or credit card transaction and a crypto currency transaction is that the government or a bank in a set country issue the currency with debit or credit card transactions while with crypto currencies an algorithm does anywhere over the world (Ali *et al.*, 2014).

The validation process of a crypto currency transaction is called "mining" (Krishnan *et al.*, 2015). The term mining is used to describe the transaction validation process (Krishnan *et al.*, 2015). The validation of transactions is performed by people called miners all over the world (Micheal, *et al.*, 2018). Miners are used to validate each crypto currency transaction and receives crypto currencies as a reward for the validation services rendered (Elwell *et*

al., 2015). The amount of crypto currency a miner receives depends on the capacity of his computer power (Kowalski, 2015).

A crypto currency itself is not a wallet, however the crypto currency is decentralised, stored, and maintained in a publically available ledger (Antonopoulos, 2017). The core technical system upon which the trading of crypto currency exchanges are based was created by the group or individual known as Satoshi Nakamoto (Wicht, 2017). As a crypto currency uses a decentralized control, it means that there is no central administrator or point of control (Berger, 2016). It is therefore much more difficult to determine the VAT implications as the transactions happen around the world between people in different countries with different VAT consequences. A centralized system is similar to electronic money and central banking, however tracking transactions in the financial services industry due to its complex nature is very hard and thus financial services are classified as exempt supplies per the VAT Act No 89 of 1991 (South Africa, 1991).

2.3 OBTAINING CRYPTO CURRENCIES

In determining the VAT implications of a crypto currency transaction, it is important to understand how crypto currencies can be obtained. It is necessary to note that the underlying entries of crypto currency transactions are the Blockchain and crypto currencies are produced through the mining process and that this is the same for all crypto currencies, however the only difference would be the commercial transaction as explained above.

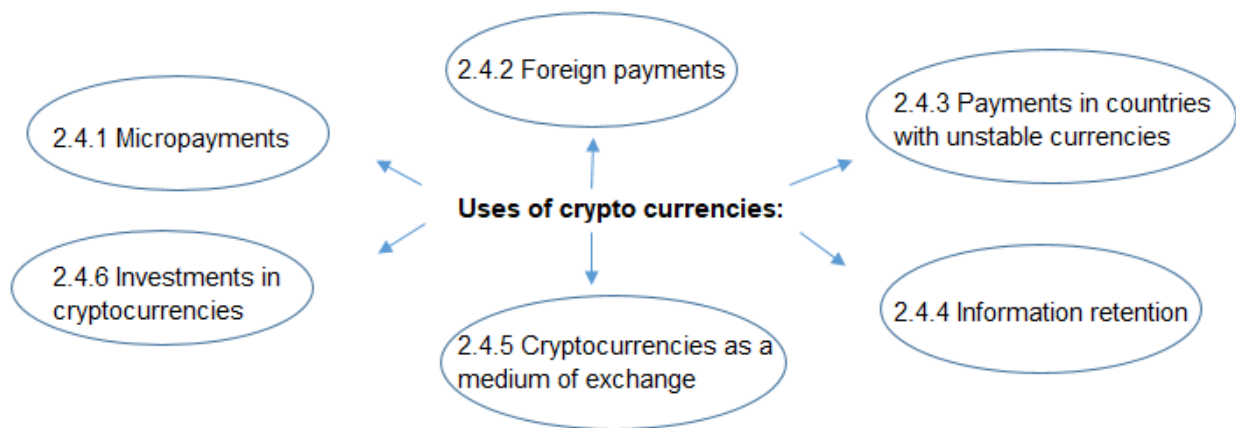
Crypto currencies can be obtained mainly through the following commercial transactions: Firstly, a user can obtain a type of crypto currency by converting their local currency for example, dollars, Euros *et cetera* to a specific crypto currency like a Bitcoin via an exchange transaction (Slattery, 2014). The price of crypto currencies relative to other currencies is determined by supply and demand and therefore very volatile (Elwell *et al.*, 2015). On 4 September 2018 the price of a Bitcoin was \$7358, while on 8 September 2018 it was \$ 6183 (Coindesk, 2018). The prices of crypto currencies are volatile, having that the price decreased in four days by 19%.

Secondly, users can obtain crypto currencies in exchange for goods or services. An example of this would be in a situation where a merchant accepts crypto currencies for the sale of products (Elwell *et al.*, 2015).

Thirdly, crypto currencies can be obtained as a method of payment by the “miner” through the “mining” process. This process entails that a user (miner) serves its computer processing power to successfully verify crypto currency transactions (mining) in the public ledger, called a “Blockchain” (Elwell *et al.*, 2015).

2.4 WHAT CRYPTO CURRENCIES CAN BE USED FOR

Figure 1: Various uses of crypto currencies



This section will focus on the various uses of crypto currencies. This will help the classification of crypto currency transactions for VAT purposes and determine the most appropriate outcome. Due to the various different usages of crypto currencies the demand thereto is constantly increasing. A few practical examples includes micropayments, international payments and payments in countries with unsustainable currencies, crypto currencies as an exchange medium or as an investment vehicle (European Banking Authority, 2014).

2.4.1 Micropayments

A crypto currency has the ability to express very small financial amounts for example Bitcoin has the ability to express an amount of 0.001 US cents (OECD, 2015b). Transaction costs

relating to crypto currency transactions are very little in relation to the exchange transaction cost (European Banking Authority, 2014).

From the above it would seem that micropayments are quite a favourable method of payment for users. It would therefore be necessary to look at classifications of micropayments as this could become an established payment method and generate VAT revenue if found applicable.

2.4.2 Foreign payments

International transactions with normal fiat currencies are delayed by among others, bank holidays and banking hours, while a crypto currency transaction is instant with no risk of exchange rate movement. Foreign payments have a distinctive advantage if crypto currencies are used. This could well establish a payment method for international trading due to its flexibility, timing and convenience. Further it could also be used for illegal transactions in the dark web (Kirkpatrick, 2017) .

From the above it is clear that foreign payments is a popular method worldwide. Therefore it is important to correctly classify such payments to ensure that it is compliant with current VAT legislation and maximization of tax revenue.

2.4.3 Payments in countries with unstable currencies

Crypto currency transactions could be used in countries with exceptional inflation rates, where the local currency would be unpractical to use. Recently there was a withdrawal of 500 and 1000 rupee notes in India and this has spiked the interest among India's consumers (Graham, 2016). Also, regardless of restrictions of banning crypto currency transactions in China, the Chinese still use Bitcoins to funnel money out of the country (Schmid, 2015).

The impact of using crypto currency transactions in countries with unstable currencies is that the value of the crypto currency is not dependent on country specific events and therefore increases the attractiveness of the usage of crypto currencies. It is important to correctly classify such payments to ensure that it is compliant with current VAT legislation and maximization of tax revenue so that tax authorities still earn income even though a different payment method is used.

2.4.4 Information retention

Crypto currencies retain the full transaction history of all executed crypto currency transactions in a data structure (SatoshiLabs, 2016). The transaction history is retained in such a form that it cannot be changed and consequently be fictitious in the future. An individual can own millions of crypto currency accounts, the only limit is the limitation of the total crypto currency units, for example: Bitcoin has a maximum of 21 million units (CoinMarketCap, 2018).

A transaction history is important as VAT is charged per transaction and paid over by the vendor to the revenue authority. Information retention makes it easy to determine the total VAT liability as VAT is claimable from transactions with proper record keeping.

2.4.5 Crypto currencies as a medium of exchange

Transacting in crypto currencies includes the use thereof as a payment method. Bitcoin, the largest crypto currency has features to make it attractive for both businesses and consumers, however it is not regulated as a traditional payment system or as a legal tender (Swartz, 2014). Users of crypto currencies may be attracted to using it due to the “low transaction costs, its peer-to-peer and government-free design”, however potential users might be discouraged if the acceptability or confidence in the system is low or if the value of a crypto currency is too volatile (Baur et al., 2017).

For example, Bitcoins can be used for buying goods or services, web hosts, casinos trading online, auction sites and firms who consult on technology (van der Westhuizen, 2017). In Australia small retail businesses accepts Bitcoin as payment for example coffee, meals and gym contracts (Chris, 2014).

It is very important to have taxation policies in place where crypto currencies are used as a medium of exchange as this can have a significant impact on the total revenue of the tax authority. VAT is a consumption tax and depending on the countries' classification of crypto currencies, VAT can be charged on each transaction.

2.4.6 Investments in crypto currencies

Crypto currencies are tradable and can therefore be used as an investment. The Finance Discipline Group at the University of Technology in Sydney indicated through a study performed that Bitcoin is used more within the investment sphere than a currency or 'medium of exchange' (van der Westhuizen, 2017). Crypto currencies can be used in several forms of investments example as an investment item for capital growth trading in crypto currencies or as investments through initial coin offerings among other.

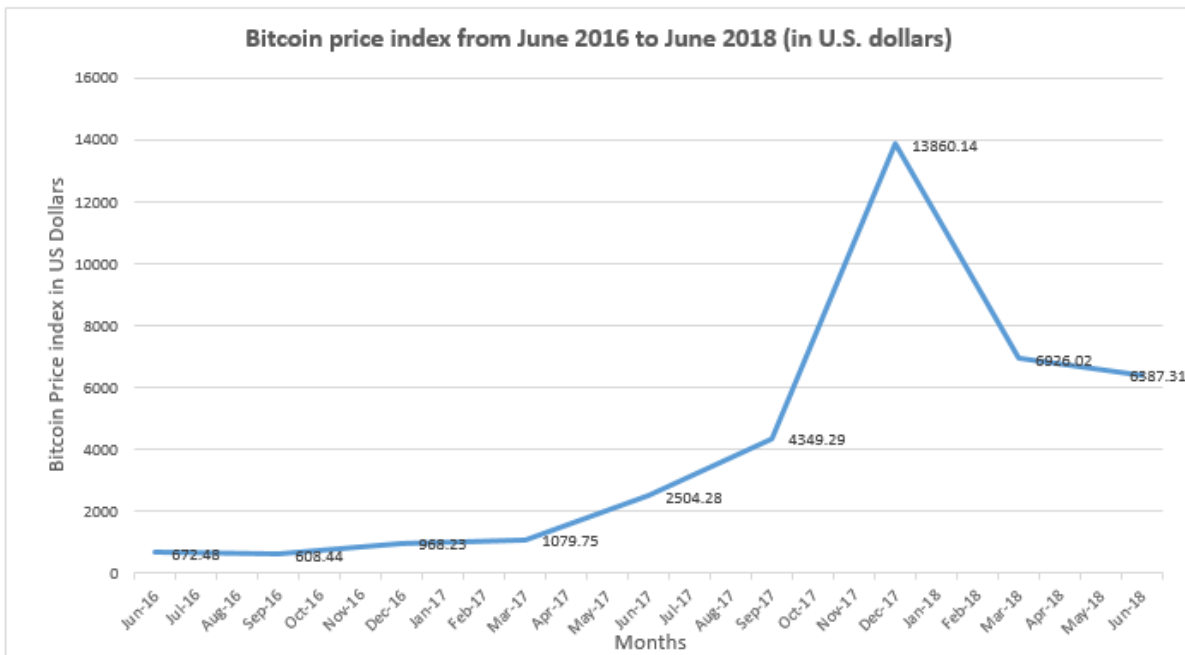
A revenue authority will have to determine the taxation treatment of investments in crypto currencies. The profits of the investments can be taxed, the capital growth or both. The taxation of investments could become an established investment method to generate additional revenues for the tax authorities.

2.5 STATISTICS INDICATING THE GROWTH IN USE OF CRYPTO CURRENCIES

Statistical evidence has been included below to indicate the increase in popularity of crypto currencies in the past. As the demand of crypto currencies increase, the revenue of such transactions will have significant impact on current tax revenue streams of revenue authorities. Revenue authorities will earn revenue on each crypto currency transaction depending on the tax treatment thereof. Different tax classifications will lead to different tax obligations. It is therefore necessary for the revenue authority to carefully consider the impact of each tax classification in order to understand the tax burden and tax revenue for the revenue authority.

As of August 2018, over 1,818 crypto currency specifications existed, from which Bitcoin had the largest market capitalization of \$ 105,702,899,880 and Ethereum second in line with a market capitalization of \$ 31, 377,518,176. (CoinMarketCap, 2018). Further statistics will be given in terms of Bitcoin as it is by far the largest crypto currency in the world (CoinMarketCap, 2018).

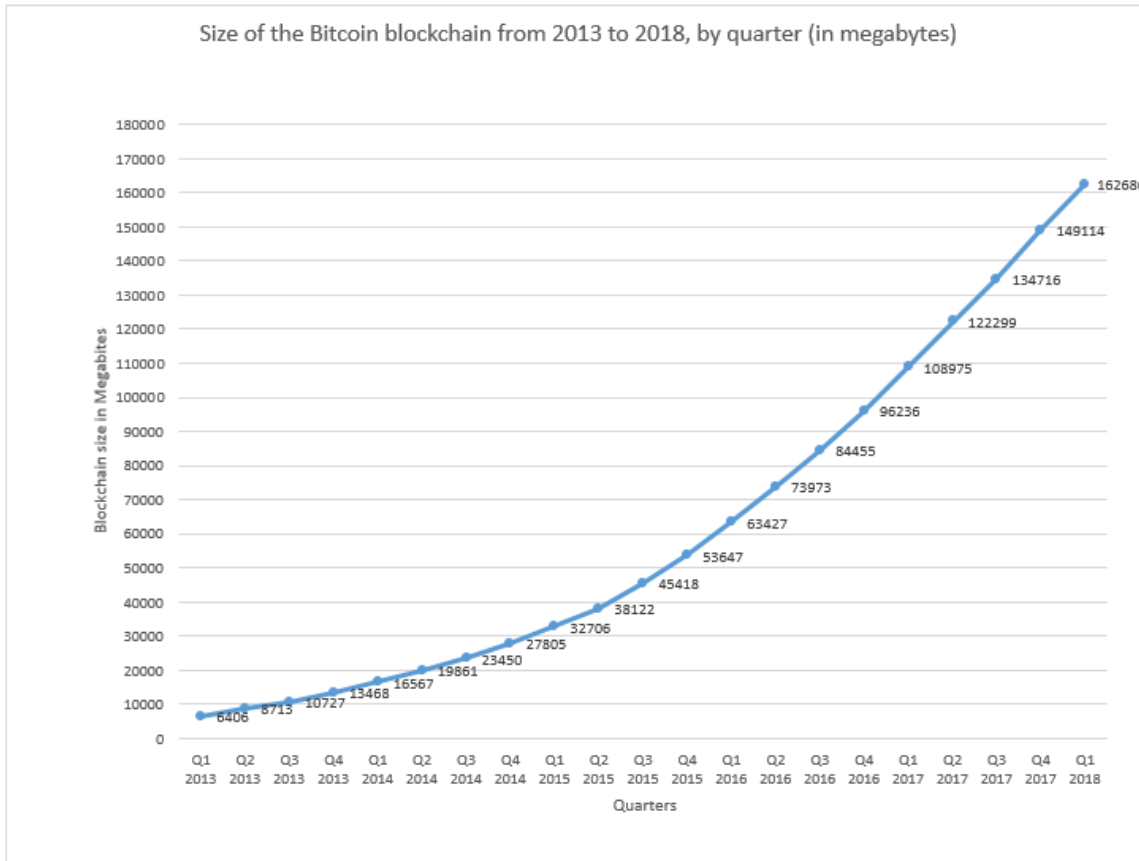
Figure 2: Bitcoin price index from June 2016 to June 2018 (in US dollars)



Adopted from The Statistics Portal (2018)

The pricing of crypto currencies are dependent on the demand for such currency. For example: if the demand is high, the Bitcoin price will also increase. Figure 2 above shows the growth of the Bitcoin price index from June 2016 to December 2017 as well as the decrease in the Bitcoin price up until June 2018. The Bitcoin price index is an average of Bitcoin prices across leading global exchanges. The Bitcoin index value at the end of June 2018 amounted to 6,387.31 U.S. dollars.

Figure 3: Quarterly size of the Bitcoin Blockchain from 2013 to 2018 (megabytes)

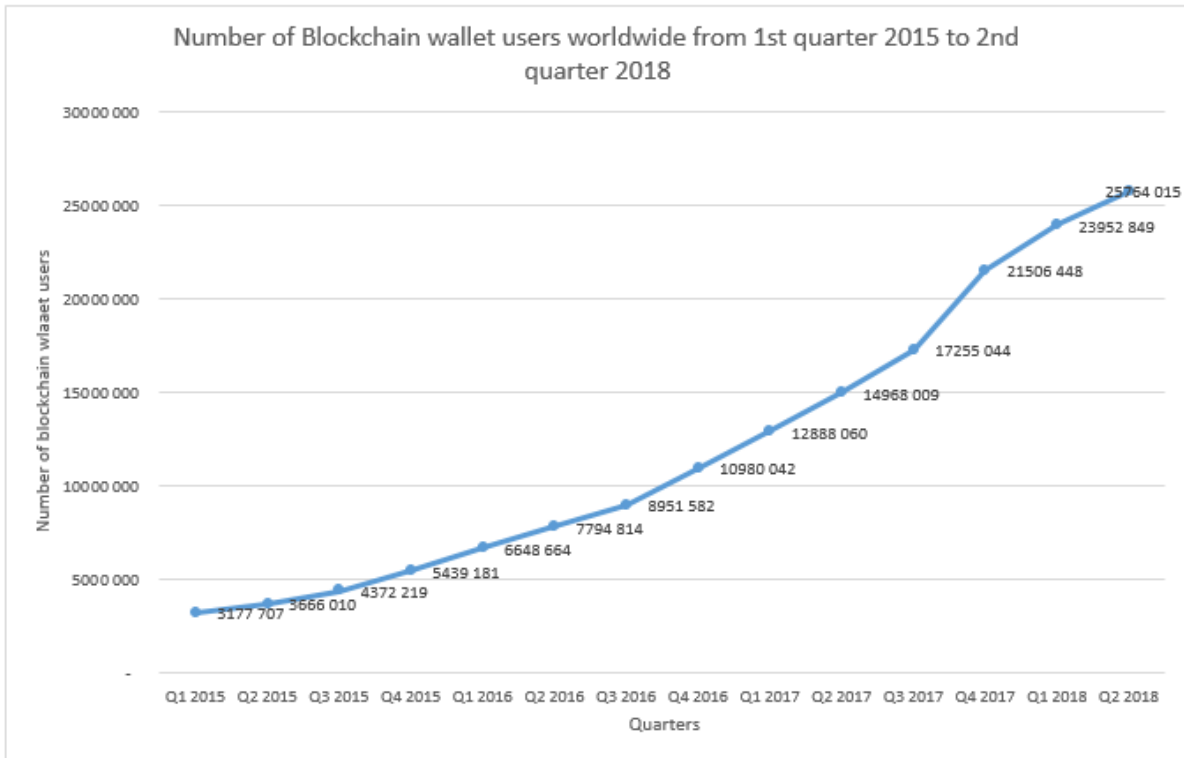


Adopted from The Statistics Portal (2018)

Figure 3 above presents the total size of the Bitcoin Blockchain from the third quarter of 2013 to quarter one of 2018. The size of the Bitcoin Blockchain has been growing since the creation of the Bitcoin virtual currency in 2009, reaching approximately 163 gigabytes in size by the end of June 2018.

From Figure 2 and Figure 3 above, it can be easily noted that the price per Bitcoin is dependent on the demand. Where the demand increased, the price per Bitcoin increased.

Figure 4: Number of Blockchain wallet users worldwide from the first quarter in 2015 to the second quarter in 2018



Adopted from The Statistics Portal (2018)

Figure 4 above indicates the total number of Blockchain wallet users worldwide, from the first quarter of 2015 to second quarter of 2018. The number of Blockchain wallets has been growing since the creation of the Bitcoin virtual currency in 2009, reaching over 25 million Blockchain wallet users at the end of June 2018.

Despite the decrease in the price of Bitcoin, from the above it is clear that there is a constant increase in crypto currency transactions due to the trust in the underlying technology on which Blockchains are based. The increase in the use of crypto currencies confirms that this is a popular method for transacting and that revenue income can be created for authorities.

2.6 Summary

To conclude, the use of crypto currencies are still growing significantly as the economy becomes more globalised and crypto currencies are not tied to a specific jurisdiction. Crypto currencies rely on cryptography for secure communication to authenticate crypto currency transactions between parties and administrating the creation of new algorithms.

Crypto currencies can be used for a variety of transactions including micro payments, foreign payments, payments in countries with unstable currencies, as a medium of exchange, for investment purposes among others.

Further tax issues arise surrounding the digital economy as there are numerous legal concerns, specifically with regard to the VAT implications, for regulators to address. Given the explosive growth in the use of crypto currencies and the unique characteristics, sufficiently tax laws must be developed by regulators to address the modern economy, including crypto currencies. Tax compliance of crypto currencies worldwide are therefore a challenge for countries on a global scale. The next chapter will discuss the fundamental principles of the VAT system.

CHAPTER 3 - THE FUNDAMENTAL VAT PRINCIPLES OF THE VAT SYSTEM

This chapter provides a detailed insight on the fundamental VAT principles of the VAT system, specifically focussing on the overview and history of the VAT system, to whom VAT applies and the treatment of different VAT classifications. This will ensure a better understanding of the VAT system to correctly classify a transaction. In addition, statistical evidence on the evolution and adoption of VAT will be provided to indicate the growth in revenues received by tax authorities.

3.1 OVERVIEW AND HISTORY OF THE VAT SYSTEM

The value added tax rise is an unparalleled tax phenomenon (Tait, 1988). The VAT concept was initially first proposed in Germany in 1918, however a variation thereof was only introduced in 1954 in France. It took over 30 years for VAT to have developed to a stage where it could be successfully implemented. (de Koker and Badenhorst, 2018). VAT is intended to tax the personal consumption of the use of goods and services by individuals (Gendron, 2016), and was created to supplement the shortfall of excising tax revenue (International Tax Dialogue, 2013).

VAT together with other consumption taxes such as Goods and Services Tax (GST) and sales tax are mainly designed to be indirect taxes. Indirect taxes intended to tax the final consumption of goods and services rather than the value added (Ebrill LP and International Monetary Fund, 2001). The final consumer of the goods or services bears the tax burden (James and Ecker, 2017), however the taxes are collected on behalf of consumers by the suppliers of these goods and services and paid over to the revenue authority (OECD, 2015a). The International Tax Dialogue (ITD) describes it as a broad-based tax which is charged on input offset against output in multiple stages of production (International Tax Dialogue, 2013), for example each business in the supply chain contributes to the process of controlling and collecting tax as the principle stands that tax is added on each stage of “value added” through the process.

VAT does not distort the price where vendors buy and sell between one another, however in such instances where the VAT is not offset, a wedge will be driven between buying and selling prices of producers (Ebrill LP and International Monetary Fund, 2001). VAT is levied on the increase in value of a product or service by a vendor at each stage of manufacturing, in other words, VAT is levied on the final consumption of all transactions by an individual. This means that the “seller at each stage subtracts the sum of taxes paid on items purchased from the sum of taxes collected on items sold; the net tax liability is the difference between tax collected and tax paid” (Silver and Beneke, 2017). A registered VAT vendor is able to recover the input tax incurred (VAT incurred to acquire the goods or services it is now selling), to the extent that the VAT is attributable for the use of making taxable supplies. It is important to note that input tax incurred cannot be claimed if the expense is not incurred to make taxable supplies (i.e. to make exempt or non-supplies). A vendor is then required to levy an output tax on the sale of the goods or services to customers.

A VAT system is designed to be proportional to consumption. A proportional tax is a tax imposed at a fixed ratio with no change as the taxable base amount increase or decrease. This means that, the amount of tax levied does not progress as the taxable amount increases or decreases, but the amount of tax is in proportion to the amount subject to taxation (Sommerfeld *et al.*, 1992). Proportional tax rates are regressive, this means that a greater percentage of income earned by a lower-income group is spend on taxes than a higher-income group. A regressive tax system is where the average tax rate is lower for higher earning people. The tax rate is still proportional, thus persons in the higher income group paying more tax, but at the same rate (Sommerfeld *et al.*, 1992).

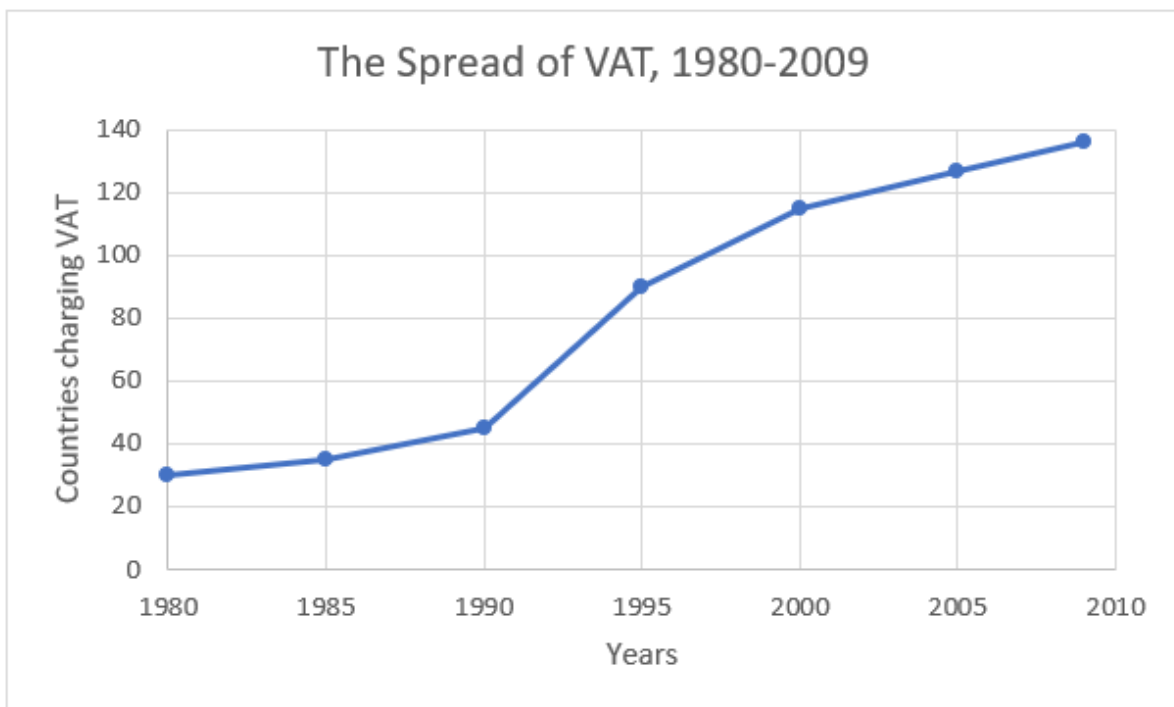
3.2 EVOLUTION AND ADOPTION OF VAT

In this subsection a brief overview will be given to indicate the increase in VAT revenue received by governments as well as the amount of countries implementing a VAT system over the past years. VAT was introduced by countries as they were dissatisfied with their existing tax structures and revenues (Tait, 1988). There are many reasons as to why VAT became such a popular source of revenue to governments. VAT became an important source of government funding over the past few decades (Esteban and Max, 2018).

As of 2018, 166 of the world's approximately 193 countries employ a VAT system (Wuyah *et al.*, 2018). All OECD countries are included in the 166, except for the United States, which currently still uses a sales tax system. VAT is one of the biggest income sources for governments worldwide (OECD, 2017a). Only six countries in the world dismantled their VAT tax collection but five later reinstated their VAT tax collection (International Tax Dialogue, 2013). Statistics provided by the ITD suggest that tax revenue from VAT collection has dramatically increased from almost 30 countries to almost 140 in 2009. This suggests that VAT is an extremely popular channel of collecting tax revenue or to counter shortfall revenue collection for countries (OECD, 2017b). If the tendency by government is to counter shortfalls on their revenue with VAT, it is of critical importance that the VAT system and its classifications function flawlessly.

3.2.1 The spread of VAT: 1980 to 2009

Figure 5: The spread of VAT, 1980 to 2009

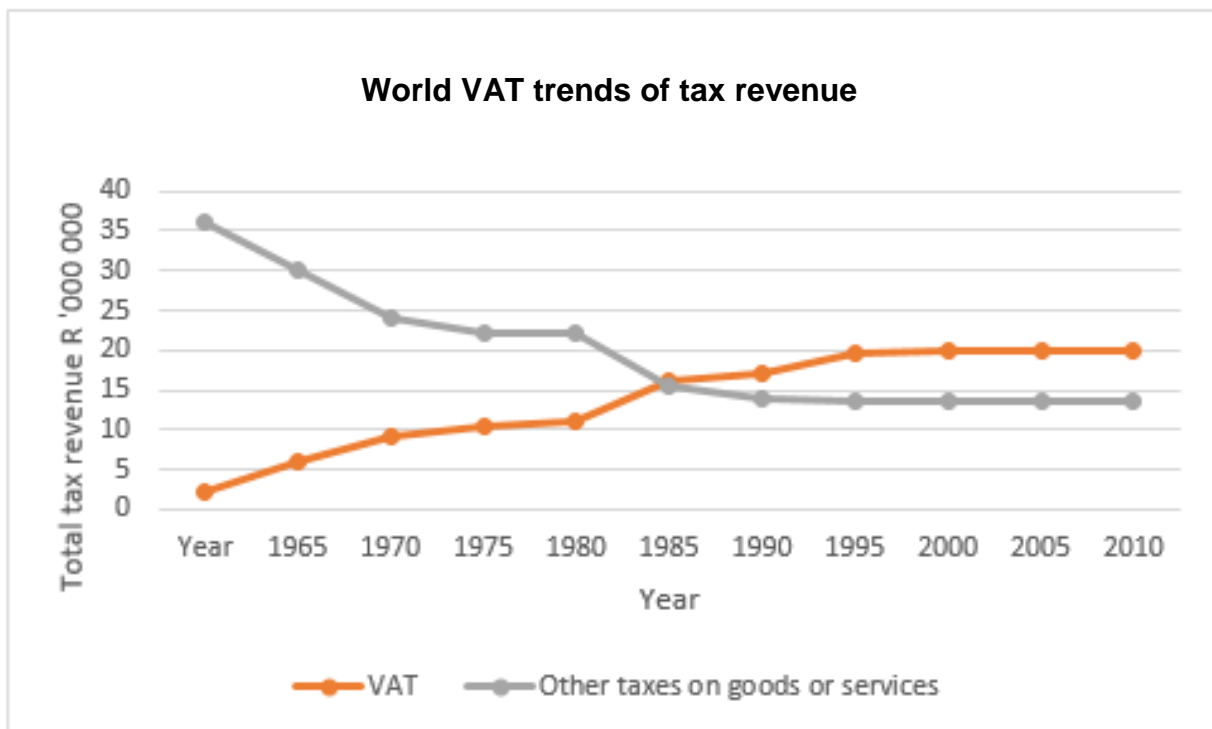


Source: Adopted from Revenue Statistics (2017)

From the above it is noted that the spread of VAT increased significantly from 1980 to 2009. In 1980 approximately 30 countries were charging consumer VAT, while this increased to approximately 90 in by 1995 and 138 countries in 2009. This confirms that governments worldwide view this as a popular revenue stream.

3.2.2 World VAT trends of tax revenue

Figure 6: World VAT trends of tax revenue



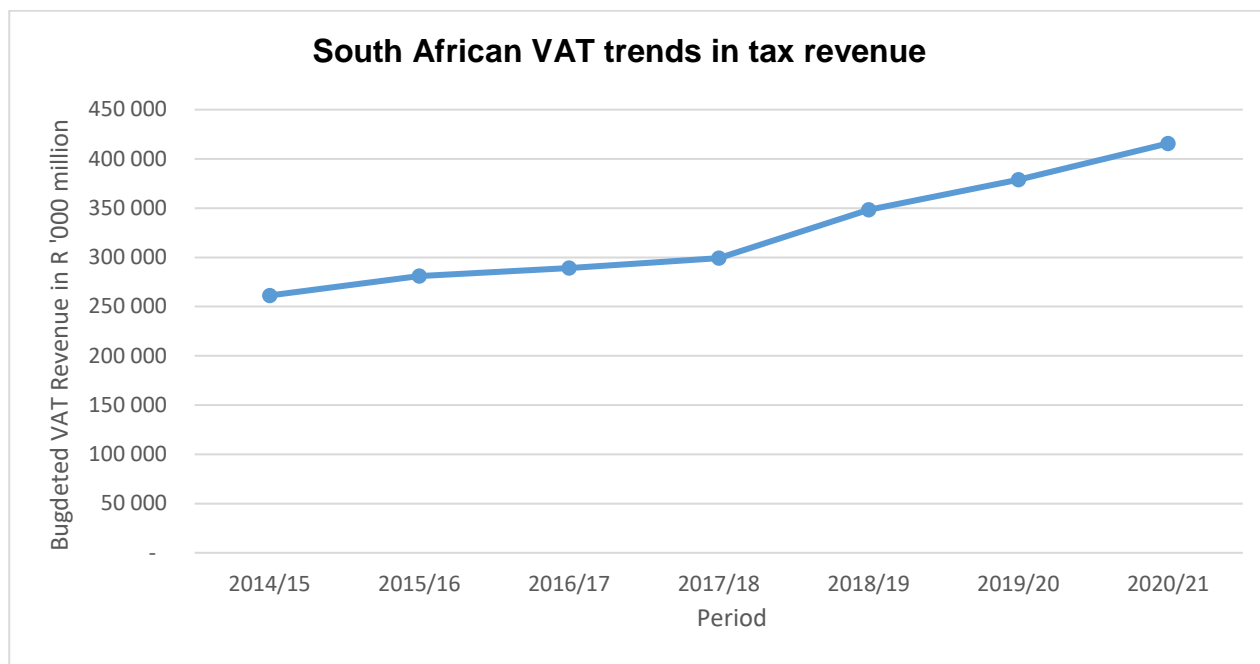
Source: Data from Revenue Statistics (2017)

In the light of the above it is noticeable that the total tax revenue derived from VAT increased since it was implemented, however there was a decrease in the total tax revenue of other taxes on goods and services over the past few years. In 1965 the total revenue earned from VAT was approximately R 2 million, while total revenue received from other taxes on goods or services was around R 36 million. The total tax revenue decreased since and the total tax revenue received from other tax revenues and VAT met each other in 1985. Thereafter the revenue received from VAT was higher than the income received from other tax revenues from goods or services. In 2010 the tax revenue received from VAT was approximately R 6 million more than the total tax revenue received from other taxes on goods or services.

From the above it is clear that the VAT system has become a greater source of revenue for authorities than other tax sources. This trend will most likely continue in future.

3.2.3 South African VAT trends in tax revenue

Figure 7: South African VAT trends in tax revenue



Source: National Treasury Republic of South Africa (2018)

According to revenue trends for South Africa for the period 2016/17, VAT contributed the second highest gross tax revenue by tax instrument with 25.3%, while the highest contributor related to taxes on persons and individuals constituting 37.1% (National Treasury Republic of South Africa, 2018). In the light of all of the above, it can be confirmed that VAT revenues generated have significant impacts on countries' economies.

From the above, it becomes evident that VAT revenues for South Africa over the past few years have been increasing. The significant increase in revenue in 2018/19 is due to the VAT rate increase of 1% from 14% to 15%, since 1 April 2018. The budgeted revenue increased from R 299 058 000 to R 348 110 000. This emphasizes the importance of VAT authorities to correctly classify goods or services as it has an enormous impact on the total VAT revenues received by a tax authority.

3.2.4 Summary

The study of *The Macroeconomic Effects of Income and Consumption Tax Changes* (Nguyen A. M. *et al.*, 2017) found that changes in consumption taxes in the United Kingdom had a less distortive effect on the GDP compared to income tax changes. This would suggest that the increase in consumption tax would still affect the economic growth, but would be more positive than a change in income tax (Coleman II W.J., 2000, Correia I., 2000). Both expressed similar views that if flat rate consumption tax replaced income tax in the United States it would create better welfare distribution. The ITD suggested that the increase in consumption taxes will also have a less negative impact on investments and savings than the increase of income tax (International Tax Dialogue, 2013).

From the above it can be seen that a VAT system is of a great benefit for a country's economy due to the additional revenue generated. Revenues generated are in turn used by these countries to grow the country's economy and to meet specific objectives that were agreed on.

3.3 TO WHOM DOES VAT APPLY

As part of the VAT scope, it is of high importance to firstly determine whether a person is subject to VAT rules as this would determine his VAT status. A person is subject to VAT rules if a taxable activity is carried in the normal course or furtherance for consideration and a minimum threshold of turnover is exceeded in a period of time (Gendron, 2016). Such person is liable to comply with the VAT rules of that country or is faced with harsh civil for non-compliance.

The equivalent concept of a "taxable activity" that is used in New Zealand, with regard to the New Zealand GST Act (New Zealand GST Act, 1985), is an "enterprise" in South Africa per the VAT Act (Value Added Tax Act, 1991). Per Article 9 of the EU VAT directive (Terra and Kajus, 2012), VAT is applicable to persons carrying an economic activity, irrespective if the purpose or results of the activity.

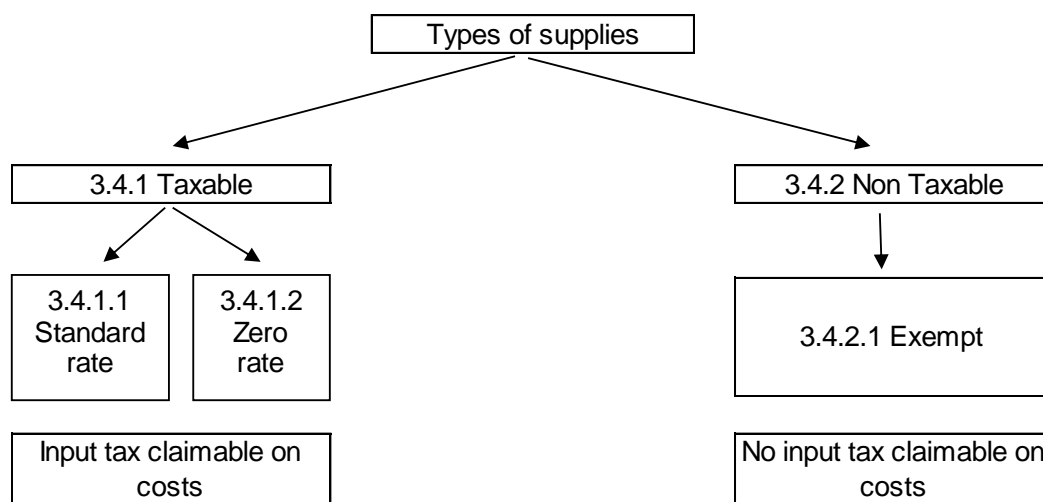
The minimum turnover threshold varies in each country. If the minimum turnover level is met in a period of time, it will be compulsory for a vendor to register for VAT; however a vendor not exceeding the minimum turnover threshold can register as a VAT vendor voluntary.

3.4 TREATMENT OF VAT CLASSIFICATION

Tax authorities are independent in the design and application of their laws. The purpose of guidelines is therefore not to provide detailed prescriptions for national legislation but rather, identify objectives and propose ways for realising them (Botha, 2015).

Where a person is required to be registered as a VAT vendor, such person will, as part of the VAT act, be required to classify the type of supplies made (Gendron, 2016). In addition to the abovementioned discussion point, the case where a country ban crypto currency transactions will also be discussed as illegal transactions are still subject to taxation.

Figure 8: Types of VAT classification supplies



3.4.1 Taxable

Subject to exemptions/exceptions, the supply of goods or services are taxed at a standard VAT rate. This means if a person is registered with a tax authority as a VAT vendor, the vendor is required to account for the VAT or GST on all taxable sales made and if applicable,

allowed to claim the input on acquiring goods or services (Silver and Beneke, 2017). A VAT vendor is required to submit to the revenue authority, when requested by them, a detailed summary of the output and input taxes for the requested period (Gendron, 2016).

3.4.1.1 Standard rated

3.4.1.1.1. “Supply of goods” in the VAT system:

A supply of goods in general is not defined the same in the different states where VAT is implemented (Gendron, 2016). The EU VAT Directive is representative of the principles that generally explains a supply of goods (Terra and Kajus, 2011) as “the transfer of the right to dispose of tangible property as owner”. The EU directive classifies such goods or services as tangible property. In South Africa a supply of goods are defined as “corporeal moveable things, fixed property, any real right in any such thing or fixed property, and electricity...” (South Africa, 1991) and in New Zealand it is defined as “all kinds or personal or real property...” (New Zealand, 1985).

Tangible property includes property with a physical substance that can be touched (Venter, 2016). Corporeal things are also referred to as “tangibles”. The key to a tangible asset is that its physical nature has inherent function and its supply is infinite. The concept “corporeal” is not defined and therefore it takes its common law meaning, as applied by courts (Venter, 2016). Its meaning is summarized as follows by CG van der Merwe in Joubert (ed.) *The Law of South Africa* volume 27 “things” para. 16: “An object is considered to be corporeal if it occupies space and can be perceived by any of the five senses. Natural forces and energies such as gravity, heat, light, sound, radioactivity and electricity are usually considered incorporeal because they so not occupy space”.

3.4.1.1.2 “Supply of services” in the VAT system

A “supply of services” poses various challenges under the VAT system due to the difficulty of defining a “service”. VAT statutes describe the supply of services as any supply other than a supply of goods (Gendron, 2016). As a consumer is taxed on the final consumption

of an item, it is therefore necessary to widen the definition of services to prevent that supplies have the possibility of escaping to be taxed (Gendron, 2016).

Principles as per the EU VAT Directive are most commonly used between VAT statutes for defining a supply of services. The directive includes a catchall classification rule where any transaction that is not a supply of goods, will classify as a supply of services. Per the South African VAT Act a service is defined as “anything done or to be done, including the granting, assignment, cession or surrender of any right or the making available of any facility or advantage, but excluding a supply of goods, money or any stamp, form or card contemplated in paragraph (c) of the definition of “goods”” (South Africa, 1991). The supply of services is defined per the New Zealand VAT Act as “anything which is not goods or money” (Clark, 1984). Also, in the United Kingdom VAT Act a supply of services is defined as “anything which is not a supply of goods but is done for consideration” (Schenk, 1976).

3.4.2 Zero rated supplies

In this subsection the concept of zero rated supplies in the VAT system will be explained. Zero rating supplies means that the tax are completely removed from a particular transaction (Gendron, 2016). A zero-rated supply is a supply where VAT is levied at a rate of zero percent on a tax invoice and the individual buys the good or service free of VAT and the trader is fully compensated for the tax paid on his inputs (Tait, 1988). Consequently, the output tax charged is R nil. Although a zero-rated supply is a taxable supply where the vendor obtains a full deduction for the tax payable on all goods and services acquired for making the taxable supply.

Treating a transaction as a zero-rated supply is the most favourable treatment for any transaction in the VAT system as an item is VAT free. In the situation where a vendor makes zero rated supplies, the vendor will most likely finds itself in the position of refunds from the tax authority on a monthly basis as the input claimable exceeds the output VAT payable (Gendron, 2016). Hence, in the case where the final supply is zero rated, effective all the VAT collected by SARS at the prior stages in the value adding process is refunded to the vendor making the final supply (de Koker and Badenhorst, 2018). On a total basis, no VAT is earned by the fiscus on the full circle of the economic activity. In fact, a transaction is a

taxable supply made by a vendor that is taxed at a rate of zero percent. Subsequently, a tax authority does not collect any taxes on a zero-rated transaction, therefore only a limited number of goods or services are afforded this benefit. The rationale behind zero rated items is implemented to achieve specific objectives by the government instead of collecting additional VAT.

Items that are normally classified as zero rated includes basic foodstuffs, exportation, increase competitiveness in the international markets. The rationale behind zero rating certain foodstuffs is to benefit the poor as the prices paid are lower than the prices paid for items that are inclusive of VAT. Further, exportation of goods and services aiming to promote exports as the consumption of the consumer is taxed in the country where the service is consumed and to increase the competitiveness in the international market place, as well as certain social-economic or political considerations as this would lead to partial or full denial of input tax credits (Silver and Beneke, 2017).

3.4.2 Non taxable

3.4.2.1 Exemptions from VAT

In this subsection the concept of exemptions in the VAT system will be explained. An “exempt” trader incur VAT as part of an expense and is not able to claim any tax credit on his inputs (Tait, 1988) as input tax is only claimable to the extent it is incurred to make taxable supplies. This means that a supply of exempt items are not a taxable supply and thus the vendor is not entitled to a deduction of the input tax paid by him in the acquiring of the goods or services by him making that supply and is seen as the final purchaser (Tait, 1988). This will cause an increase in the price incurred by the supplier in obtaining the goods or services (Silver and Beneke, 2017).

Exemptions are the most vexing aspect of VAT, as conceptually VAT should apply where a taxable supply is made (Tait, 1988). Transactions made by vendors are exempt due to the difficulty in assessing the outputs in the tax base, in other words, the value added by the vendor (financial services) or for policy reasons (health care, education, culture). With financial services it is difficult to determine where value was added by a financial institution

(De La Feria and Walpole, 2009). With health care, education, and culture the objective is to alleviate the financial burden on these sectors as well as on the additional risks and compliance costs associated with VAT accounting and compliance.

Unlike standard-rated or zero-rated supplies, an organization which makes exempt supplies does not charge VAT (Gendron, 2016). In addition, that part of the organization that makes exempt supplies does not qualify as an “enterprise” and, irrespective of its turnover, is under no obligation to register for VAT, and, in fact, cannot register as a VAT vendor. The fiscus therefore collects no VAT on the value added by a supplier of exempt goods or services (Tait, 1988). In contrast, the supplier of zero-rated supplies – which are theoretically taxable, but at a nil rate – may claim deductions of input tax paid (de Koker and Badenhorst, 2018).

Exempt supplies are in essence only “input VAT” taxed, as the concept of an exemption is that the selling of goods or services are not levied with VAT. The concept of an exemption is misleading, as it entails a loss of the entitlement of an input VAT credit (Englisch, 2011) on expenses incurred. In other words, an exemption means that the output is untaxed. Exemptions breaks the VAT chain, in other words, if the exemption occurs before a final sale of a good or service, a loss of revenue occurs as the final stage escapes tax (Ebrill LP and International Monetary Fund, 2001). On the one hand it would be easy to charge VAT for financial advice and safe keeping as the value added in the process can be clearly and easily identified, however on the other side difficulties arises for services charged for in the margin between return paid to lenders and the amounts charged by borrowers.

Where goods or services are acquired by a vendor partly during making taxable and partly for exempt supplies, a vendor may claim an input tax deduction in respect of the acquisition of goods or services to the extent that such goods or services are acquired for the purpose of making taxable supplies (de Koker and Badenhorst, 2018). Where goods or services are acquired partly in the course of making taxable and partly for exempt supplies, it is necessary for the vendor to determine the taxable use in order to claim a portion of the VAT incurred as an input tax deduction (Silver and Beneke, 2017).

Therefore, a vendor is required to directly attribute VAT incurred on goods and services acquired wholly for the making of taxable and wholly for the making of exempt supplies first,

before subjecting its input tax deduction to the apportionment ratio (Ritchie, 2015). Where a vendor makes both taxable and exempt supplies, an apportionment calculation is necessary in order to determine the portion of input tax that is claimable (Gendron, 2016).

Vendors are required to calculate the ratio of taxable to total supplies, also called the VAT apportionment ratio. This ratio will be applied to the expense that cannot be directly attributed to a taxable or exempt supply; so called mixed use expenses. In South Africa, vendors are allowed to calculate this ratio on the standard turnover based method without applying for a specific ruling from authorities. The ratio applied or calculated should be appropriate (Ritchie, 2015). The ratio is similarly calculated in by the EU, except that the EU VAT apportionment ratio excludes not only the supply of capital goods but also certain real estate and financial transactions too that are seen as not comparable (Ritchie, 2015).

3.5 VAT IMPLICATIONS ON CRYPTO CURRENCY CLASSIFICATIONS

The VAT implications of the VAT system taxing a crypto currency transaction causes various challenges including:

- (i) VAT registration for vendors with the tax authority;
- (ii) place of supply;
- (iii) value of a supply;
- (iv) time of the supply; and
- (v) other items such as cross border trades, VAT on imported services, different VAT rates and no universal VAT system.

Challenges will occur when countries classifies crypto currencies as taxable. Vendors making non-taxable supplies will not be required to register as a VAT vendor; however the remainder of the implications such as place of supply, value of supply and timing of supply will still apply.

3.5.1 VAT registrations with a tax authority

There is currently no guidance on VAT registrations for vendors accepting crypto currencies in their normal trading businesses.

Current challenges arising with VAT registrations:

1. Will a specific threshold of revenue turnover apply where crypto currencies are used as payment methods?
2. What rate should be used when converting crypto currencies to a local currency?
3. Should it be date of invoice, date of payment, an average et cetera?

It is recommended that clear guidance is issued by the tax authorities where a vendor accepts crypto currencies as method of payment.

3.5.2 Place of supply

Due to the nature of crypto currencies, the place of supply of such transaction is challenging to determine as transactions occurs in a virtual or online community (Akins *et al.*, 2014). Also, it uses a decentralized control, meaning that it is not issued nor guaranteed by a government body (Financial Action Task Force, 2014).

Place of supply rules for crypto currency exchange transactions should be specifically included in the regulatory framework of crypto currency treatment. It is recommended that the IP of the computer from where the transaction was initiated from, would be deemed the place of supply.

3.5.3 Value of a supply

A vendor registered with a tax authority is obligated to account for VAT on the value of a supply. The value of a supply is the amount of consideration paid or payable for a good or service (Silver and Beneke, 2017). An invoice is issued by a vendor to the customer to give details of the sales transaction (Gendron, 2016). Only a registered VAT vendor is allowed to issue a VAT invoice and only a VAT registered vendor can claim the input credits against the output tax liability for VAT imposed on items acquired for the making of a taxable supply.

Specific invoice requirements are stipulated per country to ensure a valid tax invoice under normal VAT/GST rules. Additional requirements over and above the current tax invoice requirements were issued by the Australian Tax Office (ATO) specifically relating to the

issuing of tax invoices for the sales transactions of crypto currencies as the standard invoice requirements are not sufficient. Per the ATO the amount of GST payable to the tax authority should be denominated in Australian currency and sufficient information should be given to the recipient to calculate the GST amount payable on the sales transaction in Australian currency (Australian Tax Authority, 2017).

Current challenges with the value of a supply:

1. Specific invoice requirements an invoice should have to ensure validity.
2. What rate should be used when converting crypto currencies to a local currency?
Should it be the date of invoice, date of payment, an average?
3. Required treatment and requirements for debit and credit notes.

3.5.4 Time of supply

The time of a supply refers to when the sale or transfer of ownership of goods or services in a transaction are passed on to the buyer (Silver and Beneke, 2017). Time of supply of a transaction is challenging to determine as transactions occurs all over the world in a virtual and online communities (Akins *et al.*, 2014).

Due to this, it is difficult to determine a set time to be deemed as the time a supply occurs. A recommendation for this would be that the time of a supply should be deemed to be the time the crypto currency is reflecting in the account of the new owner as risks and rewards have passed on to the new owner.

3.5.5 Other

Cross border transactions

In addition to the abovementioned, cross border transactions on goods and services are still unattended in regulations. No universal VAT system exists and each country applies its own set of VAT rules and VAT rates. The importance of this is due to the different classification of a crypto currency transaction by each country, the need for Double Tax Agreements (DTA's) arises to simplify the taxation treatment on such transactions.

Double tax

Double taxation is the levying of tax by two or more jurisdictions or vendors on the same declared item, for example when selling exempt items to VAT registered vendors, double taxation occurs, increasing total revenue. (Gottfried and Wiegard, 1991). Double taxation is avoided through only taxing the valued added to a supply.

VAT on imported services

Further, such transactions will have a significant impact on the treatment of the VAT on imported services or reverse charge on a transaction (Gendron, 2016). It should be clearly addressed by tax authorities how this should be treated.

3.6 SUMMARY

In summary, it is of great importance to understand the concepts of the VAT system as this is crucial for the classification of transactions. A person is subject to the VAT rules when a taxable activity is performed once the minimum level of turnover in a specific timeframe has been reached. Transactions can be classified as taxable and non-taxable.

Taxable supplies can be categorised as either standard rated or zero rated supplies, while non supplies relates to exempt supplies. Standard rated supplies are taxed at the standard rate, zero rated supplies are supplies that are taxed by a zero rate, while exempt supplies are exempt from tax and no input tax can be claimed (Tait, 1988). Where both taxable and exempt supplies are made by a vendor, an apportionment calculation is necessary in order to determine the portion of input tax that is claimable (Gendron, 2016).

Worldwide VAT has been strongly adopted by most of modern society and it has shown that governments strongly relies on VAT revenue benefits as this is seen a modern method of taxation with less economical disturbance. Classification of VAT will therefore be of high importance as it is seen as an essential revenue stream to governments worldwide.

In addition to the above, general VAT implications such as time, value and place of supply arises on the application and classification of crypto currency transactions. This indicates

that further development is necessary to address these challenges to ensure transactions are treated simply and in uniform worldwide.

CHAPTER 4 - EVALUATION OF VAT CLASSIFICATIONS VS VAT TREATMENT

This section describes the VAT treatment applied by each country on crypto currency transactions together with an analysis of the VAT system applicable to the specific VAT treatment. Crypto currencies can be classified for VAT purposes as either a taxable supply or a non-taxable supply. In addition to the above, certain countries have also elected to ban crypto currency transactions. The implications of each of the above classifications are addressed in this chapter.

Countries relevant to the specific VAT treatment will be discussed to illustrate the crypto currency classification. Countries such as India, Canada, the Filipino Islands and Israel, treats crypto currencies as taxable, while European-, non-European countries, Australia, New Zealand and South Africa treat it as exempt supplies. No evidence could be found to substantiate that there are any countries currently classifying crypto currencies as zero rated supplies.

4.1 TAXABLE SUPPLY

In section 3.4.1 goods and services were discussed in detail. A “good” was in short defined as “the transfer of the right to dispose of a tangible and corporeal item” as owner as there are no specific VAT definition (Gendron, 2016), and “services” on the other hand is described by VAT statutes as the supply of services as any supply else than a supply of goods.

A crypto currency is not something that represents a tangible or corporeal item as per the VAT definition of a supply of goods. Due to its physical nature it would be challenging to classify a crypto currency as goods and therefore it would be more suitable to view as a service.

Based on the above analysis, there are strong arguments to be made for the view that the transfer of crypto currencies constitutes the supply of a service as defined. If defined or classified as a service, VAT is applicable to such a transaction at the standard rate. In such

case a customer supplies to a supplier in exchange for goods (crypto currency) a transaction becomes a barter transaction for VAT purposes as goods are exchanged for services.

i. Barter transactions

A barter transaction is where goods or services are supplied and the compensation received is something else than money. The treatment of a transaction should specifically be determined as crypto currencies are excluded by regulations from the term “money”. The taxation ruling IT 2668 defines “bartering” as follows: “bartering involves the direct exchange of goods or services for other goods or services without reference to money or a money value” (Australian Taxation Office, 1992). Money is specifically excluded from the definition of a good and service and therefore no VAT can be levied on money, while the contrary also exists, where no VAT can be reclaimed on money.

In a barter transaction the goods are deemed the consideration received by the customer for supplying the VAT vendor with the crypto currencies. If the customer supplies enough services in a specific timeframe in exchange for consideration, the customer could be in a position to be required to register as a VAT vendor with a tax authority.

A barter transaction between vendors supplying goods and customers supplying crypto currencies requires to account for output tax on their supplies, even though no cash exchanges hands. The supplier is still required to account for the output tax in the same way it would have done before. The customer (the supplier of the crypto currency) also needs to account for output tax on the consideration it received for the services supplied.

A supplier is required to collect VAT from each customer and pays it over to the tax authority. When crypto currencies are classified as taxable (irrespective of a good or service) the supplier of the items in the transaction would be in a nil position as the supplier as the input claimable and the output tax payable would net each other out. Therefore the supplier would be in a nil position. On the other hand the customer would be in a net output taxpaying position.

Based on the above-mentioned, a tax authority’s administration would increase significantly, without any benefit in revenue as it would be required to administer both the supplier and

customers VAT, although only revenue is received by one party. Countries currently treating crypto currency transactions as taxable include India, Canada, Philippines and Israel.

4.1.1 Countries classifying crypto currencies as goods or services

4.1.1.1 India

The Indian Government confirmed earlier in 2018 that crypto currencies have no legal tender in India. While no specific regulatory framework has been implemented to regulate virtual currency exchanges, the Reserve Bank of India (RBI) issued warnings to the public about the risks associated with crypto currencies (Ireland Department of Finance, 2018).

In the beginning of 2018 the government of India indicated that they are in the process of drafting regulations that will regulate crypto currency transactions. On 6 April 2018 the RBI issued an alert that it prohibits banks, lenders and any other financial institutions that are regulated in India from “dealing in crypto currencies” (Reserve Bank of India, 2018).

As there are currently no specific regulation over crypto currency transactions, India currently levies the normal tax rate of 18% on all crypto currency transactions (Deloitte, 2018).

4.1.1.2 Canada

In 2013, barter transaction rules applied to the use of crypto currencies for goods and services, while the buying or selling of it as a commodity was subject to normal capital gains taxes (CBC, 2014). The Financial Consumer Agency of Canada allows for the use of crypto currencies, per their webpage “[you] can use digital currencies to buy goods and services on the Internet and in stores that accept digital currencies. You may also buy and sell digital currency on open exchanges, called digital currency or crypto currency exchanges”. (Canada, 2018). Canada does not appear to consider Bitcoin or any other crypto currencies as legal tenders as they are not supported by any government or central authority. There is only one legal tender accepted in Canada, which is the Canadian Dollar. The use of a digital currency does not exempt consumers from the Canadian tax obligations and GST still applies on the value for which an item can be sold in any given market using crypto currencies. (Government of Canada, 2018).

4.1.1.3 Philippines

The Philippines Central Bank (Bangko Sentral ng Philipinas (BSP)) issued guidelines on virtual currencies (Bangko Sentral ng Pilipinas, 2017). The guidelines specifically includes that digital currencies are not backed by the Central Bank and is not a legal tender. In addition, penalties may be issued to entities trading with virtual currencies that conduct operations without authorization from the BSP.

There are no exemption for the VAT on crypto currencies in the Philippines, the sale of a virtual currency in the regular course of business by a VAT registered vendor exceeding 3 million Philippine Peso threshold may be subject to 12% VAT on gross sales and receipts (Geronimo, 2018).

4.1.1.4 Israel

According to Israel's Supervision on Financial Services (Regulated Financial Services) Law 5776-2016, virtual currencies are included in the definition of a "financial asset" (Library of the Congress, 2018). A license is required by persons engaging in services with financial assets from the Supervisor of Financial Services. A license is only issued to an Israeli citizen or resident meeting the minimum requirements that includes being older than the age of majority (18 years old), who is legally competent, and has not been declared bankrupt. In addition to the above requirements, the licensee must have a minimum specified amount of equity and not have been declared unfit to handle financial transactions (Geronimo, 2018).

From a VAT perspective, investors in crypto currencies are not liable for VAT, however anyone being classified as a "dealer" will be liable for VAT. Any business classified as a "financial institution" for taxation purposes are subject to VAT at a rate of 17% (Matthew, 2018).

4.2 EXEMPT SUPPLY

The supply of a crypto currency as a service could still fall outside the VAT system when a supply is classified as an exempt supply (also refer 3.4.2). The supply of financial services

is exempt from VAT. It was held in foreign case law that a Bitcoin, one of the main crypto currencies in circulation, is not an equity or debt security, which are two of the categories of financial services listed in the VAT Act (South Africa, 1991). The supply of currency also constitutes a financial service and is an exempt supply.

If crypto currencies are classified as an exempt supply, a vendor making both taxable and exempt supplies will be required to determine an apportionment ratio. An input tax deduction in respect of acquiring goods or services is only claimable to the extent that such goods or services are acquired for the purpose of making taxable supplies (de Koker and Badenhorst, 2018). A vendor will only be allowed to claim input VAT in the ratio taxable supplies are made (Silver and Beneke, 2017).

A vendor will not be able to add an output tax to the selling value of the item, as the final consumption of the item is exempted from tax. However, some counterarguments could arise on the basis that persons would then be able trade crypto currencies, like any other trading stock, without these trades attracting VAT, while the supply of any normal trading stock would attract VAT.

Normally the full amount of VAT incurred in acquiring goods or services by a vendor for making fully taxable supplies may be deducted. On the contrary, where goods or services are acquired for making mixed supplies (both taxable and non-taxable), only the portion relating to the taxable supplies may be claimed as VAT input (de Koker and Badenhorst, 2018).

If crypto currency transactions are classified as a financial service (or exempt supply), vendors will experience difficulty in calculating an apportionment ratio due to the fact that their main receipts and accruals during any period are made up of both taxable and exempt income. Traditional VAT systems have attempted to deal with the current difficulties arising from exempt financial services, however no concrete solution have been found.

4.2.1 Treatment of crypto currency transactions as an exempt supply

An exempt supply is a taxable supply exempt from VAT and that the input tax credit on such an item is not claimable, irrelevant whether the vendor is a registered or a non-registered vendor (Shaari et al., 2015). Please also refer to 3.4.2.1 for the fundamental VAT treatment of exempt transactions.

In this subsection, countries discussed are regulating crypto currency transactions as exempt supplies in both European countries and non-European countries. At this moment in time, South Africa has proposed regulations on the VAT treatment similar to exempt supplies.

4.2.1.1 European Union

In the Hedqvist case (C-264/14)(2005), the Court of Justice of the European Union (CJEU) was asked to consider the taxation of the exchange of normal currency for Bitcoins. Mr Hedqvist desired to set up a Bitcoin exchange business; however he requested clarity on the VAT treatment of such transactions before the start-up of his new business.

The relevant Swedish VAT legislation was subject to the EU VAT Directive. This directive determines that the supply of goods or services for consideration within the area of a Member State of the EU by a taxable person is subjective to VAT. Article 135 of the VAT Directive exempts among others: “transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors’ items, that is to say, gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest”.

Importantly, the parties in this case agreed that it was common ground that the ‘Bitcoin’ virtual currency has no other purpose than to be a means of payment and that it is accepted for that purpose by certain operators (paragraph 52 of the judgement).

The court came to the conclusion that the exchange of a “Bitcoin” for a traditional currency constituted a supply of a service (paragraph 31 of the judgement). The court was not requested to consider the place where this supply takes place.

The taxpayer advanced arguments that a Bitcoin represented an exchange of currency, but also that the Bitcoin represented shares or debt claims or deposits. The court rejected the views that the supply of a Bitcoin qualified for the exemption available for supplies of debt or equity instruments.

When required to determine whether the exemption applies to traditional currencies, the court held the view that “[transactions] involving non-traditional currencies, that is to say, currencies other than those that are legal tender in one or more countries, in so far as those currencies have been accepted by the parties to a transaction as an alternative to legal tender and have no purpose other than to be a means of payment, are financial transactions” (paragraph 49 of the judgement).

In coming to a conclusion, the judge considered the following argument advanced by the taxpayer: “Furthermore, as Mr Hedqvist submitted, in essence, at the hearing, in the case of exchange transactions in particular, the difficulties connected with determining the taxable amount and the amount of VAT deductible may be the same, whether it is a case of the exchange of traditional currencies, normally entirely exempt under Article 135(1)(e) of the VAT Directive, or the exchange of such currencies for virtual currencies with bi-directional flow, which — without being legal tender — are a means of payment accepted by the parties to a transaction, and vice versa” (paragraph 50 of the judgement).

The court came to the conclusion that “It therefore follows from the context and the aims of Article 135(1)(e) that to interpret that provision as including only transactions involving traditional currencies would deprive it of part of its effect” (paragraph 51 of the judgement).

Predictably this decision confirmed that the exchange of Bitcoin for a traditional currency constitutes a supply of services. After following the Advocate-General’s opinion the court held that the exchange of Bitcoin falls within the exemption in Article 135(1) (e) of the VAT Directive. In the directive, such transactions are classified as exempt transactions ‘concerning currency, bank notes and coins used as legal tender’ from VAT. The relevance of the *Hedqvist case* (C-264/14) to other crypto currencies is that there seems to be no

reason for treating other crypto currencies differently from the treatment of Bitcoin as they all have the same nature.

Table 1: Summary of countries classifying crypto currency as exempt from VAT

Austria	Denmark	Hungary	Malta	Slovenia
Belgium	Estonia	Ireland	Nederland	Spain
Bulgaria	Finland	Italy	Poland	Sweden
Croatia	France	Latvia	Portugal	United Kingdom
Cyprus	Germany	Lithuania	Romania	
Czech republic	Greece	Luxembourg	Slovakia	

Adopted from The Law Library of the Congress (2018)

4.2.1.2. The following non-EU countries also exempt crypto currency transactions from VAT

4.2.1.2.1 Switzerland

Switzerland treats crypto currencies as a legal fiat currency. Thus, the transfer of crypto currencies does not constitute a supply of goods or services. Consequently, Switzerland exempts Bitcoin transactions from VAT since 2015 as it falls outside the scope of the VAT Act (Rose Boeve and Arrieta, 2016). Bitcoin was never taxed in the past in Switzerland, however the Swiss Federal Tax Administration (FTA) made it official in 2014 after clarification was requested (Geronimo, 2018). Financial advisory firms are currently using the FTA’s ruling to substantiate that Switzerland recognizes crypto currencies as both explicitly legal and a legitimate currency. (Dewhurst, 2015).

4.2.1.2.2 Japan

Japan operates a system known as the Japanese Consumption Tax (JCT), which is similar to VAT and GST (Deloitte Tohmatsu Tax Company, 2016). In May 2016, the Act on Settlement Funds (No 59 of 2009) was amended to the Amended Settlement Act to include the regulation and handling of virtual currencies for exchange transactions between the Yen

and foreign currencies (Geronimo, 2018). In Japan, Bitcoin is recognized as “a means of payment that is not legal currency” (Décourt et al., 2017). In 2017, the Japanese government formally accepted Bitcoin as a payment method, exempt from JCT (Décourt *et al.*, 2017). In September 2017 the Financial Services Agency (FSA) granted licences for 11 companies for virtual currency exchanging. Companies have to meet strict requirements, not limited to segregating individual customer accounts and the strengthening of its computer systems (Vigna and Hunter, 2017).

4.2.1.2.3 Norway

In 2013 a statement was issued by the Norwegian Tax Authority that determined that the trading in crypto currencies were subject to VAT at a rate 25% as the trade in crypto currencies are web-based and classified as an electronic service subject to VAT (Geronimo, 2018). In 2015 the Court of Justice of the European Union ruled that the trading of crypto currencies are exempt from VAT, this caused the Finance Department to start considering the VAT treatment of such transactions. In 2017 final guidance was issued, establishing that the transactions in crypto currencies are exempt from VAT (Letter from the Finance Department to the Norwegian Tax Authority and tjenester [VAT Fees – Exemption for Financial Services] (Feb. 6, 2017).

4.2.1.2.4 South Africa (proposed regulation)

Currently, South Africa has proposed legislation to classify a crypto currency as a financial service. The National Treasury has proposed certain amendments to the VAT Act (South Africa, 1991) relating to the VAT treatment of crypto currencies in the draft Taxation Laws Amendment Bill, 2018 (South Africa, 2018b) and the draft Tax Administration Laws Amendment Bill (South Africa, 2018a) issued for public commentary on 16 July 2018.

The amendment proposes that the “issue, acquisition, collection, buying or selling or transfer of ownership of any crypto currency” should be added to the list of financial services listed under section 2 of the VAT Act (South Africa, 1991).

If the proposed amendment are approved, all exchange transactions and trading of crypto currencies will be exempt from VAT in terms of section 12 of the VAT Act (South Africa, 1991) as it is seen as financial service. In other words, there will be no VAT input claims on

the acquisition of crypto currencies, and no VAT output being levied on the disposal of crypto currencies.

Further, the VAT on the costs involved in the acquisition transactions of crypto currencies, either through mining or purchase, would not be claimable as a VAT input.

4.2.2 Medium of exchange

A crypto currency could also be classified as a medium of exchange that a counterparty *may* exchange for something of value. In this section the outcome if crypto currency transactions treated in a similar manner to money or currency will be discussed. Money is specifically excluded from the definition of goods, services, while currency is excluded from financial services.

Mike (2013) explained that “currency is a medium of exchange; a unit of account; it is portable, durable, divisible and fungible, whereas money carries all of the abovementioned characteristics, but in addition, is a store of value over a long period of time”. In addition he also points out that gold and silver have proven over thousands of years to be the ultimate store of value and therefore makes it the optimum form of money; they are limited in quantity and as such, retain their purchasing power.

Currency is defined as “any banknote or other currency of any country, except when used as a collector’s piece, investment article, item of numismatic interest, or otherwise than as a medium of exchange”. Unless the crypto currency is a currency of another country, it will not meet the definition of currency for VAT purposes (van der Zwan, 2018).

The term “currency” is not defined in the South African Income Tax Act (Act no. 58 of 1962) while section 15 of the South African Reserve Bank Act (Act no. 90 of 1989) affirms that the monetary unit of the Republic is the rand. According to paragraph (b) of the “local currency” definition in the South African Income Tax Act (Act no. 58 of 1962), “local currency” means the currency of the Republic. Additionally, synonyms of currency include money, legal tender and medium of exchange. Bitcoin is used as money and is used as a medium of exchange (Seforo, 2014).

In the context of business-to-consumer transactions, VAT is imposed on the supply of goods or services to a customer by a VAT vendor (supplier). In a typical transaction, the supplier could supply goods, for example and would be required to charge VAT at a standard rate on the supply of the goods. The customer will deliver money to the vendor in exchange for the goods. The supply of money is excluded from being goods or services, however currency is excluded from financial services. The customer does therefore not make a supply of any goods or services in this process. On the other hand, a person will be required to account for VAT if the purpose of use of an item is personal consumption (as opposed to using it to make supplies in its own business activities). This leaves the customer in a position where it bears the final burden of VAT charged. At the end of the VAT period, the VAT vendor (supplier) is required to pay the total of all the VAT charged to its customers during the period to SARS. From an administrative perspective, the supplier collects and administers the VAT on the consumption on all its customers, as opposed to SARS having to collect the VAT from each customer consumer of the goods or services, even though the customer bears the economic cost of the VAT.

Based on the above fundamental analysis, it is submitted that there are strong grounds to support an argument that crypto currencies should be treated similarly to money or currency for VAT purposes to avoid this fundamental shift in the VAT administration system (van der Zwan, 2018). This argument can however be countered by the fact that the current exemption of the supply of foreign currency also allows trading of such foreign currencies without attracting VAT.

The most common medium of exchanges are money and currency, each explained below. At present, regulation on crypto currency transactions in Australia are issued, however a proposal was issued on the VAT treatment by New Zealand. It was recommended that New Zealand should treat VAT on crypto currency transactions similarly to Australia (Kariyawasam and Mayes, 2018). In this subsection the VAT treatment on such transactions for Australia and New Zealand will be discussed. Australia and New Zealand was selected for discussion as they are seen as leaders in regulating of crypto currency transactions.

4.2.2.1 Countries classifying crypto currencies as a medium of exchange

4.2.2.1.1 Australia:

Australia is one of the countries in the world who has pursued a constructive balance with its implementation of Blockchain technology and virtual currencies. In 2013, per the Australian Tax Office (ATO) crypto currency transactions were treated as electronic payments, subject to GST and income tax (Australian Government, 2018). In 2014 the ATO concluded that a Bitcoin (largest of crypto currency in terms of market capitalization in the world (CoinMarketCap, 2018)) is neither money nor a foreign currency, but an asset (virtual property).

In the Budget Speech of 2017/2018 (Australian Government: The Treasury, 2017) the Government announced that it would remove the double taxation of digital currencies. Previously, sales and purchases of crypto currencies (such as Bitcoin) were subject to Goods and Services Tax (GST) as it was treated as a taxable supply. However, as from 1 July 2017 digital currencies are treated the same as money (Australian Tax Authority, 2017). The result of such treatment is that double taxation in the hands of the customer will be eliminated (Scott, 2018).

Double taxation means that a registered GST vendor has to pay GST and is entitled to GST credits, while only the supply of goods or services are treated as barter transactions. Please refer to subsection 4.1.

The Australian Tax Authority (ATO) is specific in what classifies and what not as a digital currency after 1 July 2017, although this is very complex given the fact that a digital currency could change as a result of developing technology and protocols (Thorpe, 2018).

Schedule 1 was added to the A New Tax System (Goods and Services Tax) Act 1999 (Australian Government: Federal Register of Legislation, 2017) to address the GST treatment of digital currencies. The definition of what constitutes a digital currency, a supply as well as the value of a supply was amended to address the treatment of digital currencies.

Per the ATO the definition of a digital currency means digital units “that are fungible, can be used as consideration for a supply, are generally available to members of the public without

any substantial restrictions on their use as consideration, are not denominated in any country's currency, do not have a value that depends on, or is derived from, the value of anything else and does not give an entitlement to receive, or to direct the supply of, a particular thing or things, unless the entitlement is incidental to: holding the digital units of value; or using the digital units of value as consideration" (Australian Government: Federal Register of Legislation, 2017).

Specifically excluded from the definition of a crypto currency is money, anything that would classify as a financial supply, units such as loyalty points provided by retailers redeemable for products and services specified by that loyalty scheme as well as 'currency' units used by online multiplayer games that cannot be used outside the game under which the 'currency' is made available (Australian Tax Authority, 2017). A 'digital currency' with value based on underlying items such as giving an entitlement, privileges to something else or any advantage. An example would be where a token is aligned with an Australian or foreign currency, as well as where it gives you an entitlement to use software application services.

A crypto currency is specifically designed and included in the Acts to fall outside the scope of the VAT system and is therefore not taxable. The changes implemented for the GST treatment on the trading in crypto currencies represents a fundamental shift for users and the platforms facilitating the trading of digital currency as this will no longer give rise to double taxation in the hands of consumers (Kariyawasam and Mayes, 2018). Due to the positive change for Australian consumers, it is likely that there will be an increase in the use of crypto currencies.

4.2.2.1.2 New Zealand (Proposed regulation)

At the moment, regulations on crypto currency transactions are proposed on the VAT treatment by New Zealand. It was recommended that New Zealand should treat VAT on crypto currency transactions similarly to Australia (Kariyawasam and Mayes, 2018).

The Inland Revenue Department (IRD) reported in January 2018 that it would be issuing guidance on the treatment of crypto currencies. In April 2018 the IRD released guidance and stated that crypto currency transactions would not be treated as a foreign (fiat) currency, but rather as property (Inland Revenue Department 2018). No specific guidance was issued on GST, although they are currently working on the issue, it is likely that the view taken will

be that crypto currencies are property. This means that GST is payable on all crypto currency transactions. It appears thus far that legislation similar to Australia would be required to remove GST from crypto currency transactions. If not, double taxation will occur and will prevent crypto currencies from functioning as a currency, which distorts the market (Kariyawasam and Mayes, 2018).

In the end it is recommended that New Zealand should issue guidance on the GST treatment of crypto currency transactions. The IRD should enact legislation following the approach taken by Australia and remove GST on crypto currencies being used as a currency.

4.2.3 Banned or illegal crypto currency

Each country has the ability to choose to ban or classify crypto currencies as an illegal activity due to the countries specific regulations or beliefs regarding the influence of crypto currencies. As any illegal activity would still have financial consequences associated with such behaviour. These financial consequences such as VAT or income tax penalties has not yet been addressed or considered but rather ignored by opting to not confront the growing issue of crypto currencies at all.

As the world is an ever changing and developing place at some point in the near future these countries will be forced to face the circumstances and developments of the current world economy and address evolving issues, including crypto currencies.

Some countries have argued that crypto currency transactions enables criminal organizations and terrorist groups to avoid the detection and interference from government authorities in order to commit activities such as money laundering, trafficking narcotics, purchasing weapons and bypassing international sanctions (Frebowitz, 2018).

The countries listed below has not yet elected to enforce specific regulations regulating crypto currencies, but instead banned such transactions from the country.

4.2.3.1 China

In February 2018 the People's Bank of China (PBOC), which is the central regulatory authority for regulating financial institutions as well as the drafting of the monetary policy of the country, issued a statement that “it would block access to all domestic and foreign crypto currency exchanges and ICO websites.” Furthermore, China aims to clamp down on “all crypto currency trading with a ban on foreign exchanges” (Shobhit, 2018). China currently views all crypto currency transactions as “virtual commodities” and has banned all companies and individuals raising funds through ICO’s. The ban was jointly issued by the People’s Bank of China, the China Securities Regulatory Commission and the Insurance Regulatory Commission (Leng, 2018).

4.2.3.2 Iran

On 22 April 2018, the Central Bank of Iran (CBI) officially announced that the handling of crypto currencies is prohibited. This includes the buying or selling of virtual currencies and any software used to facilitate crypto currency transactions (The Law Library of Congress, 2018). Crypto currencies are banned in light of concerns over global allegations of money laundering and financing of terrorism, this decision by the Bank was unexpected as it was seen by many as a way to overcome problems related to banking, international and industry sanctions (Financial Tribune, 2018).

4.2.3.3 Iraq

Crypto currency transactions are prohibited by the Iraqi Central Bank (ICR) due to global allegations of money laundering and the financing of terrorism (The Law Library of Congress, 2018). It was made clear by the ICR that those trading in crypto currencies despite it being prohibited may be disciplined with penalties mentioned in the Iraqi anti-money laundering law (Central Bank of Iraq, 2017).

4.2.3.4 United Arab Emirates

All transactions including virtual currencies encircling the Arabic are prohibited in the UAE under article D.7.3 of the Regulatory Framework for Stored Values and an Electronic Payment Systems (Central Bank of The United Arab Emirates, 2017).

Mubarak Rashid Al-Mansouri, the governor of the UAE Central Bank, reiterated a warning against trading in crypto currencies due to the high risk and volatility of crypto currencies in January 2018 (Sarah, 2018). Al-Mansouri commented in news reports about his view of crypto currencies as that trading should be avoided as it is not approved by the Central Bank. Furthermore, such transactions are prone to be used for money laundering or terrorism funding. Trading in crypto currencies cannot be monitored by any legitimate financial authority in the UAE (The Law Library of Congress, 2018).

4.3 Summary

In this chapter the VAT treatment applied by different countries were discussed. Crypto currencies were classified as either a taxable supply or a non-taxable supply. Some countries have elected to ban crypto currency transactions, rather than enforcing specific regulations regulating such transactions. Further, no confirmation was found to confirm whether there are countries currently classifying crypto currencies as zero rated supplies.

The fundamental question posed by crypto currencies from a VAT context is whether crypto currencies should be treated like goods or services, financial services or rather money.

Where a crypto currency is classified as a taxable supply, either a goods or services, such supply is subject to VAT at the standard VAT rate. Due to crypto currency's physical nature, it would be more suitable to view as a service than a good. Taxing crypto currency transactions as taxable causes barter transactions as goods or services are supplied and the compensation received is something else than money. In addition to the above, double taxation on transactions is also caused on cross border transactions. Since 2013 Australia used to classify transactions as taxable, however they have reconsidered and from 1 July 2017 crypto currencies are treated as money instead (Australian Government, 2018). Countries discussed as taxable included India, Canada, Philippines and Israel.

If classified as an exempt supply, a vendor making both taxable and exempt supplies will be required to determine an apportionment ratio as their main receipts and accruals during any period are made up of both taxable and exempt income. The European and non-European

countries treating transactions as exempt together with South Africa that has proposed similar treatment were discussed.

Money is specifically excluded from the definition of goods, services and financial services. Where crypto currency transactions are classified as money, VAT is imposed on the supply of goods or services to a customer by a VAT vendor (supplier) and not on the medium used as payment. Australia is currently taxing crypto currencies as money, while it has been proposed that New Zealand should treat it similar,

Please refer below where a short summary are provided on each country on whether taxing on crypto currencies are regulated, the classification and VAT treatment of crypto currencies:

Table 2: Summary of VAT classification by jurisdiction

Jurisdiction	Regulated	Classification
India	Yes	Taxable supply
Canada	Yes	Taxable supply
Israel	Yes	Taxable supply
Philippines	Yes	Taxable supply
European Union	Yes	Exempt
Switzerland	Yes	Exempt
Spain	Yes	Exempt
Norway	Yes	Exempt
South Africa (proposed regulation)	Yes	Exempt
Australia	Yes	Money
New Zealand (proposed regulation)	Yes	Money
China (PRC)	Banned	N/A
Iran	Banned	N/A
Iraq	Banned	N/A
United Arab Emirates	Banned	N/A

Sources: Please refer to above sub sections.

From this chapter it can be noted that the majority of countries have chosen to treat the VAT on crypto currency transactions as exempt. However, in the light of the above a strong argument exists that a crypto currency transaction should be classified as currency for

VAT purposes in order to avoid the fundamental shift in the VAT administration system. A positive outlook on crypto currencies and crypto currency transactions indicates an interest in the process of regulating such transactions.

CHAPTER 5 – CONCLUSION

Currently, no worldwide consensus exists on the treatment or classification of VAT on crypto currency transactions. Each country is governed by its own laws and regulations as well as timing of implementing guidance on appropriate treatment of such transactions. This study focussed on the current VAT classifications or treatment of crypto currency transactions. Crypto currencies are an evolving form of global currency with a purpose to challenge and revolutionise the traditional ways in which parties transact with one another. The world is an ever changing environment and not static in nature. A responsibility arises to adapt and influence the outcome of such changes in a proactive manner which would have a positive outcome on the evolution and development of our universal system.

Secondary objectives:

- i. Identify and analyse the concept of crypto currencies including the nature, characteristics, working, obtaining and usage.

A crypto currency is a digital currency that uses encryption techniques to transfer ownership (Wicht, 2017). **A crypto currency wallet is used to send transactions between an owner and a receiver (peer-to-peer) (Loera, 2015).**

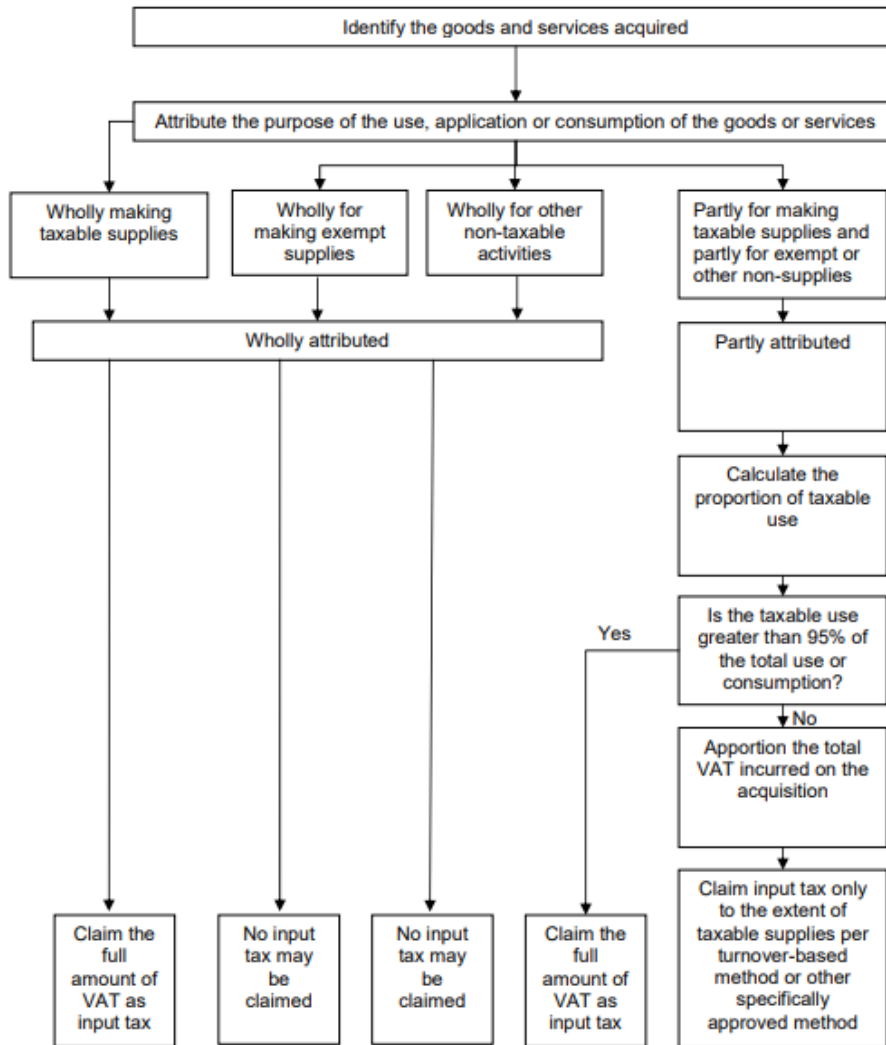
Table 3 Summary on obtaining and using crypto currencies

Obtaining cryptocurrencies	Uses of cryptocurrencies
Convert a local currency to cryptocurrencies	Micropayments
Obtaining cryptocurrencies in exchange for goods or services	Foreign payments
Through the “mining” process	Payments in countries with unstable currencies
	Information retention
	Cryptocurrencies as a medium of exchange
	Investments in cryptocurrencies

Over the past few years the popularity of crypto currencies have never ceased to increase (Crosby et al., 2016). It is therefore of great importance for revenue authorities to issue guidance on such transactions. The term “currency” in traditional systems will also be challenged and most probably changed to include items such as crypto currencies.

- ii. Evaluate the fundamental VAT principles such as taxable supplies and exempt supplies from world perspective.

Figure 9: Summary of VAT classification



Adopted: Smit (2009)

A person is subject to VAT rules if:

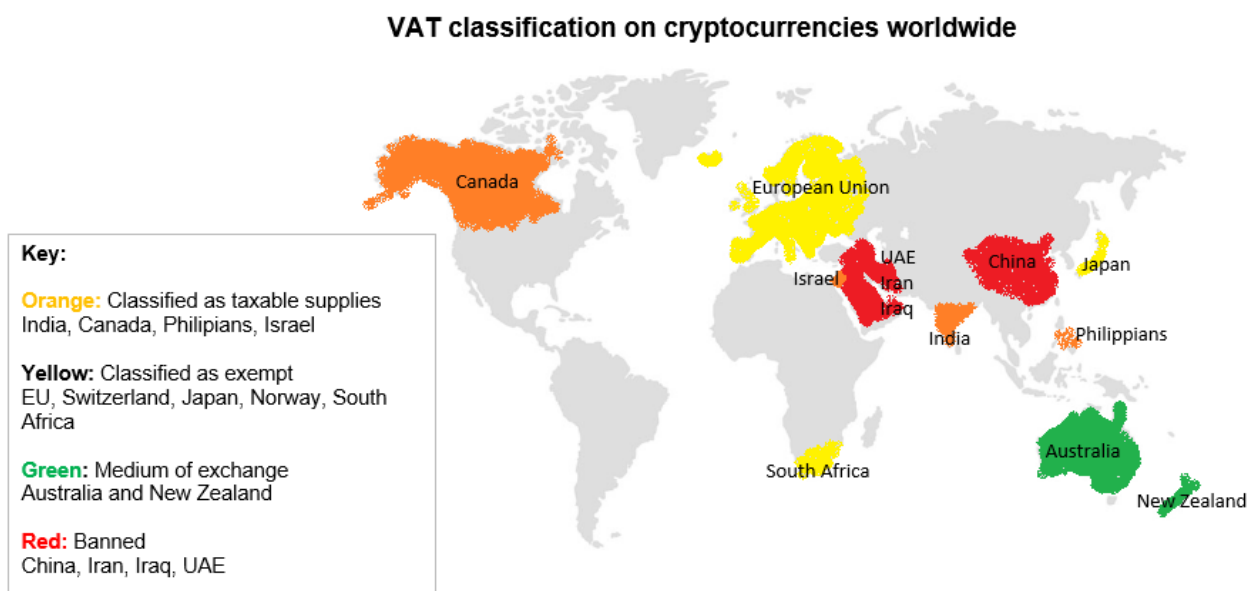
- (i) a taxable activity is carried on; and
- (ii) a minimum threshold of turnover is exceeded in a period of time (Gendron, 2016).

If a person is required to register as a VAT vendor, such person will be required to classify the type of supplies made as either taxable or non-taxable.

A taxable supply can be categorised as either a standard rated or a zero rated supply, while non supplies relates to exempt supplies. Standard rated supplies are taxed at the standard rate, while zero rated supplies are supplies that are taxed at a zero rate. Non-taxable supplies, (exempt supplies), are exempt from value added tax and therefore no input tax can be claimed on a transaction (Tait, 1988). In addition to the classifications above, a crypto currency could also be classified as a medium of exchange as it is specifically excluded from the definition of a good, service or financial service (Gendron, 2016).

- iii. Critical analysis of current VAT classification on crypto currencies worldwide.

Figure 10: VAT classifications on crypto currencies worldwide



Source: The Law Library of Congress (2018)

Taxable:

As part of taxable supplies, a supply can be classified as either a good or a service. A good is something that represents a tangible or corporeal item, however a crypto currency does not meet this definition and thus it would be difficult to substantiate a good, and therefore it would be more suitable to view as a service. In such case a customer supplies to a supplier in exchange for goods (crypto currency) a transaction becomes a barter transaction for VAT

purposes as goods are exchanged for services. If crypto currencies are classified as taxable, either goods or services, the administration burden increases significantly as the supplier and customer would have to be registered for VAT. The supplier would be in a nil position each month, while the customer would be in a net output taxpaying position. Countries currently following this approach include India, Canada, Philippines and Israel.

Exempt:

A supply that is classified as an exempt supply is exempted from VAT. Where a supplier only makes exempt supplies, the supplier is not required to register for VAT. In the case where a vendor makes both taxable and exempt supplies, a vendor would be required to calculate an apportionment ratio and would only be allowed to claim input tax to the extent of the apportionment ratio.

Medium of exchange:

When crypto currency transactions are classified as money or currency, only the supply of goods or services to a customer by a VAT vendor (supplier) is taxable. This means that the method of payment is not taxed. Currently Australia is taxing crypto currencies as money and it was also proposed to New Zealand for similar treatment.

Banned:

As some countries have elected to ban crypto currencies or classify them as illegal the user would still bear the consequences as there are still financial implications to consider for such actions. These countries are yet to take up the responsibility and accountability and instead are denying its implications or existence for regulatory purposes.

Countries that banned crypto currencies include:

- China
- Iran
- Iraq
- UAE

Main objective:

The main objective was to determine which of current VAT classification would be most beneficial for treating crypto currency transactions worldwide and provide future guidance on application.

The results indicated that countries are taking in consideration the VAT implications and classifications of crypto currencies as these are seen as valuable or have significant impact on future economies. Countries such as Australia have changed their crypto currency regulations from taxable to money. This suggests that countries such as Australia has changed their perspective to evolve or adapted to current trends and issues.

No consequential VAT treatment or classifications of crypto currencies currently exist. It would seem that there is no real tendency or favouritism towards classifying as it as taxable or exempt. Some countries have also elected to ban crypto currencies as an alternative treatment to the above, although they are denying that there are any financial implications and chose not to address these issues.

Concerns with the current VAT system or treatment of crypto currencies would include time, value and place of supply as these transactions happens virtually and not bound by regulating authorities. No universal VAT classification or systems is currently implemented to address to give universal guidance on the treatment of such transactions. Each country is governed by its own laws and timeline of addressing and implementing possible regulations. This enhances the difficulty to provide clear guidance on the current recommended treatment of crypto currencies.

From the literature review conducted it would seem most beneficial to classify crypto currencies as money or currency. This would have the least disturbing effect on current VAT systems and implications. This would be beneficial to regulators as well as users as no real physical change or implementation of new systems or processes that would have to be put into place. This could be seen as a short time solution or guidance towards VAT on crypto currencies until a universal VAT classification or treatment is implemented. The world is ever changing and evolving and so would the treatment of such transactions. It is of critical

importance to ensure that the VAT system and classifications evolves with the technology to ensure that gap between current issues faced is addressed accordingly.

CHAPTER 6 – FUTURE RESEARCH AND RECOMMENDATIONS

The analysis of crypto currencies has shown that the existing VAT regulation lacks guidance in addressing fundamental issues such as time, value, and place of supply, as these transactions are not bound by universal or virtual worlds.

Regulators should provide recommendations or classifications in order to support the guidance and development of answering current issues faced by the world VAT system. As the world evolves so will crypto currencies, and its issues will only be enhanced by its popularity or growth. Therefore, it is a risk to address the treatment and classification of such transactions to maximise a positive outcome for both the regulator and user. A universal VAT guidance system such as that which the OECD recommends should be implemented and adopted by countries to ensure the consistent treatment of crypto currency transactions occurs.

Future research could include a study on the practicality of the implementation of a universal taxation system with focus on the treatment of crypto currency transactions. Further, a study could also be performed on the economic effect if VAT legislation on crypto currency transactions is changed to be universal. Cross border tax evasion and law enforcement of VAT legislation on crypto currencies could also be monitored and evaluated.

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