

DIGITAL CURRENCIES, SWOT ANALYSIS

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Abstract. The paper highlights the increased international trade and discussion in recent years of digital currencies, also known as virtual currencies or cryptocurrencies, including the bilateral trade coin bitcoin (BTC). Scholars have emphasised the need to consider different preconditions, focusing primarily on domestic perspectives of payment intermediation within individual countries. The inclusion of digital currencies in global trade is motivated by the recognition that time is playing an increasingly important role in trade dynamics. Scholars have presented arguments on the potential impact of CBDCs (central bank digital currencies), highlighting their ability to facilitate secure and seamless payment transactions in line with the primary objective of central banks. Conversely, sceptics argue that the mere issuance of CBDCs can potentially undermine the stability of the financial system. High interest rates tend to reduce the amount of cash in circulation. Therefore, higher interest rates do not stimulate digital currencies as investors seek to keep their funds tied up rather than floating. The *purpose* of this research is to consider the concept of digital currencies in global trade, reflecting the increasing importance of time in trade. Older generations have been reluctant to embrace this new way of doing business, and many questions have arisen. For example, digital currencies compete with traditional currencies, making government control difficult. There are also issues of trust, credibility, volatility, use across countries, use across time zones, trading time, uncertainty, disruption to current centralised economic systems, lender of last resort in the form of a central bank, as well as distance and culture in international trade. The methodology used is the well-known and classic SWOT analysis, which provides tools for analysing the pros and cons of digital currencies. It sheds light on the advantages and disadvantages of digital currencies, including strengths, weaknesses, opportunities and threats. The *results* vary depending on the weight of the four measures provided. The *practical implications* are that it is important to be aware of the measured factors when trading: Strengths, Weaknesses, Opportunities and Threats. Finally, it is believed that the *value/originality* of the research sheds light on issues that people need to be aware of when considering entering into a transaction using some form of digital currency.

Key words: digital currencies, SWOT analysis, international trade, culture, international trade organizations, WTO.

JEL Classifications: F14, F23, M14, M21

1. Introduction

The surge in international trade has triggered discussions on digital currencies, in particular on payment intermediation and the exploration of central bank digital currency (CBDC) issuance. Scholars have emphasised the need to consider different preconditions, focusing mainly on the domestic perspective of payment intermediation within each country (Morales-Resendiz et al., 2021). The inclusion of digital currencies in global trade is motivated by the recognition that the time factor plays an

increasingly important role in trade dynamics. Scholars have presented arguments on the potential impact of CBDCs, highlighting their ability to facilitate secure and seamless payment transactions in line with the primary objective of central banks (Bindseil, 2020). Conversely, sceptics argue that the mere issuance of CBDCs can potentially undermine the stability of the financial system (Nationalbank, 2017). This concern stems from the recognition that CBDCs can have multiple and, in some cases, unforeseen effects on the existing economic

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Figure 1. City lights, showing trading potential

Source: *National Geographic* (2023)

landscape. Consequently, it is imperative that a comprehensive assessment of the potential impact of CBDCs on monetary policy and financial stability be conducted before central banks in developed countries proceed with their issuance.

The primary objective of this study is to explore the intersection of digital currencies and their impact on international trade, culture and international trade organisations, with a particular focus on the World Trade Organisation (WTO). A SWOT analysis framework was deemed appropriate to gain comprehensive insights related to digital currencies. In particular, Iceland, located in the North Atlantic Ocean, relies heavily on air connectivity to attract tourists as it is equidistant from mainland Europe and the United States. In the context of digital currencies, the concept of "distance is dead" (Smith, 1996; Todri et al., 2022) takes on particular significance, prompting an interesting examination of this phenomenon and its implications.

2. Literature Review

The evolving nature of business practices, particularly with the emergence of digital currencies, has been met with resistance from older generations, leading to a number of pertinent questions. Challenges related to geographical distance and cultural differences (Beugelsdijk et al., 2017) arise in the use of digital currencies in international trade (Luu et al., 2022). The widely recognised and classical SWOT analysis framework is used to conduct a comprehensive analysis. This approach makes it possible to examine the strengths and weaknesses associated with the development of digital currencies, as well as to

explore the opportunities and threats they pose in the international trade landscape.

SWOT matrix approach allows the study of strengths, weaknesses, opportunities and threats. Several researchers have analysed the SWOT matrix (Argyres & McGahan, 2002; Menon et al., 1999; Hill & Westbrook, 1997; Koch, 2000; Chermack & Kasshanna, 2007). Economic studies have attempted to analyse the impact of crises in open economies (IMF, 2018, 2020; Krugman, 2011; World Bank, 2021). Emphasis on increasing returns to scale (Krugman, 1991; Kristjánssdóttir, 2010, 2017) and culture (Hofstede, 1980, 2001; Hofstede & Bond, 1988). Researchers have also applied the knowledge capital model, taking into account skilled labour (Markusen et al., 1996). In addition, the issue of distance in international business has been considered using the gravity model and Iceland (Bergstrand, 1985; Distance Calculator, 2020).

3. Money and the Role of Central Banks

Throughout history, money has taken different forms. Initially, money was perceived as a commodity, known as commodity money, which had an intrinsic value and was often represented by objects such as gold or silver (Velde, 1998). Subsequently, there was a transition to the use of paper notes directly backed by gold or silver, similar to the monetary system implemented during the Bretton Woods era (Mankiw et al., 2016). In contrast, the majority of countries currently use fiat money as their monetary system.

Central banks around the world have various tools and instruments at their disposal to achieve their objectives (Gottfries, 2013). To fulfil their three

main functions of ensuring price stability, managing the financial system and facilitating safe payment intermediation, central banks use monetary policy to achieve price stability (Gottfries, 2013). Maintaining price stability is crucial to preserving the value of money over time (Mankiw, 2020), and this objective ensures low and stable inflation rates (Gottfries, 2013). However, failure to achieve price stability can have negative consequences beyond the value of money. Moreover, high and persistent inflation can undermine economic efficiency, hinder the optimal allocation of resources and potentially exacerbate income inequality (Petursson, 2007). Thus, the pursuit of price stability is both an objective of monetary policy and a means of fostering overall economic stability and welfare (Gottfries, 2013).

Effectively controlling inflation can be a formidable challenge, requiring considerable discipline on the part of central banks and fostering public confidence. Central banks commonly use inflation targeting and adopt systematic and predictable policies to enhance transparency and credibility within the monetary system (Svensson, 1997). This approach aims to foster confidence among economic agents and stakeholders by providing clear guidance and reducing uncertainty (Friedman, 1968). Thus, maintaining price stability is the primary objective of monetary policy, prioritising its independence from other considerations such as economic growth or employment (Blanchard et al., 2013).

4. Digital Currency Development

The concept of digital currency has attracted considerable interest from central banks around the world (Boar & Wehrli, 2021; Syarifuddin, 2023). While the first discussions on digital currency can be traced back to 2012, central banks began to pay more attention to this area in 2015 (Opore & Kim, 2020). According to a survey of sixty central banks conducted by Boar and Wehrli (2021), around 86% are actively involved in digital currency research. The Central Bank of Iceland defines digital currency as an electronic claim held by individuals on the central bank (Iceland, 2018). The International Monetary Fund defines it as an obligation of the central bank, denominated in the current nominal unit. It can serve as a unit of account and a store of value (Mancini-Griffoli et al., 2018).

Central bank digital currency electronically represents claims against a central bank denominated in the prevailing nominal unit. It can serve as both a medium of exchange and a store of value (Bordo & Levin, 2017). While central banks already issue electronic central bank money, it is currently limited to selected financial institutions (Iceland, 2018). The introduction of CBDCs would entail granting

the public access to acquire electronic claims against central banks (Iceland, 2018). In terms of payment mechanisms, CBDCs can function similarly to conventional bank deposits, with transaction payments affecting the deposit balances of both buyers and sellers (Bordo & Levin, 2018). Nevertheless, CBDCs differ from traditional deposits in that they represent claims against a central bank rather than a commercial bank, thereby mitigating counterparty risks (Iceland, 2018).

There are two main categories of CBDC: retail CBDC and wholesale CBDC. Retail CBDC includes two subcategories: virtual e-money and e-money accounts. The former refers to CBDC that is accessible for general use, while the latter includes specific accounts for electronic money (Mancini-Griffoli et al., 2018). Wholesale CBDC, on the other hand, is designed for limited use by selected financial institutions (Mancini-Griffoli et al., 2018). It is worth noting that the issuance of wholesale CBDC is expected to have a relatively smaller impact on the financial landscape than retail CBDC. Hence, wholesale e-money has the potential to reshape the financial infrastructure and enhance inter-institutional payment transfers (Cœuré & Loh, 2018).

The concept of CBDC has attracted considerable attention and has been the subject of extensive debate. CBDC is conceptualised as a digital currency issued by a central bank, and proponents of this idea have presented compelling arguments in its favour, highlighting the potential to leverage technological advances to create an autonomous payment medium using closed blockchain networks (Bech & Garrat, 2017). A key differentiating factor, however, is a fundamental distinction between CBDCs and cryptocurrencies (Bordo & Levin, 2017). Central banks operate within a centralised framework and are responsible for regulating the supply, value and security of the currency. Conversely, cryptocurrencies function within a decentralised system in which individuals participate in transactions characterised by a predetermined supply and primarily place their trust in the system rather than relying on a centralised authority (Hileman & Rachus, 2017).

5. Economic Theory of International Trade

How easy and beneficial is it to trade between countries? Numerous attempts have been made to determine this. Economic theory has tried to determine the gains from international trade between countries (Bergstrand, 1985; Markusen, 2004). Many have found similar cultures to be advantageous when trading with another country in both economic downturns and booms, often including various variables, including distance under imperfect competition with increasing returns, as Helpman and

Krugman (1989) explained. All kinds of analyses have been carried out, including those that take into account the effects of geographical distance, market and economic size, and even trade blocs.

Researchers have attempted to explain the drivers of international trade through econometric modelling (Bergstrand, 1985; Markusen, 2004). Early research includes studies by Pöyhönen (1963) and Tinbergen (1962), who focused on the study of international flows, followed by research by Bergstrand (1989), Deardorff (1995), Helpman, Melitz and Rubinstein (2008). Some economists have chosen to apply the so-called gravity model of international trade, with theoretical and econometric foundations, as presented by Anderson (1979) and Bergstrand (1989).

6. SWOT Analysis – Strengths, Weaknesses, Opportunities, Threats (matrix creation)

The use of SWOT analysis helps to assess future opportunities and potential limitations associated with digital currency. SWOT analysis provides a structured approach to examining the strengths, weaknesses, opportunities and threats inherent in the domain. By using the SWOT framework, the aim is to gain insight into the various aspects of digital currency and to assess its overall strategic position in the market.

Strengths

The potential for automation through smart contracts is similar to the opportunities for innovation in financial services and trade. These strengths offer potential benefits for businesses, individuals and economies engaged in global trade (Wenker, 2022). However, to fully realise these benefits, implementation challenges and regulatory frameworks need to be carefully considered.

Analysing the strengths of digital currencies in international trade can shed light on their potential benefits. For example, digital currencies can offer faster and more efficient cross-border transactions, reducing costs and transaction times (Islam et al.,

2022; Meng et al., 2021). This understanding can help policymakers and businesses identify strengths that can leverage opportunities for digital currencies in international trade.

Digital currencies have several strengths in international trade that can lead to improved efficiency and speed of transactions, reduced costs associated with cross-border payments, increased financial inclusion for the unbanked, increased transparency and traceability. Thus, in terms of cross-border transactions, the cost of processing CBDCs is likely to be beneficial to businesses and households through reduced prices and lower transaction fees (Bordo & Levin, 2017; Raghuvvera & Bray, 2020).

Weaknesses

The weaknesses of digital currencies in international trade can be observed in several areas, allowing for a comprehensive assessment of potential challenges and limitations. For example, scalability, security concerns or regulatory uncertainties may hinder the widespread adoption of digital currencies in cross-border transactions (Arora & Arora, 2018; Witherpoon, 2017; Zamani & Giaglis, 2018). Recognising these weaknesses can guide stakeholders in addressing the identified gaps or developing strategies to mitigate the associated risks. Regulatory challenges can also arise, as the evolving and heterogeneous regulatory landscape across jurisdictions creates uncertainty for businesses and individuals engaged in international trade. Therefore, scalability and efficiency concerns are evident, particularly in terms of transaction processing speed and network capacity (Androulaki et al., 2018).

Many individuals and businesses may have limited knowledge of how to use digital currencies or may be reluctant to change from traditional payment methods. Addressing these weaknesses will require the combined efforts of various stakeholders, including governments, regulators, businesses and technology developers. The adoption of digital currencies in international trade is highly dependent on user

Table 1
SWOT analysis of the impact of digital currency

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> - Fast business, time saving. - Usage in international business. - Distance factor eliminated. - Skip the middlemen, banks & credit card firms. - The "double spending problem" taken out. 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> - Lack of reliability, trust is limited. - Skip credit card/ bank transfer. - Uncertainty. - No Central bank back-up. - Violates current centralized econ systems. - It is kind of an anonymous currency.
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> - Usage cross borders. - Use in different time zones. - Quicker way of doing business. - Different currencies out of the picture. - Creating a new platform of trust. 	<p style="text-align: center;">THREATS</p> <ul style="list-style-type: none"> - Competing with conventional currencies. - Bank collapse with higher int rates. - Dries up when interest rates increase. - Difficult governmental control. - Bitcoin Rollercoaster, volatility.

acceptance and familiarity (Narayanan et al., 2016). In addition, security and privacy issues, including cyber threats and concerns about illicit activities, require robust measures for protection and oversight (Narayanan et al., 2016). In addition, the lack of centralised authority and governance structures in digital currencies also poses challenges in terms of accountability and consumer protection (Cocco et al., 2018). Overcoming these barriers to adoption will require education, user-friendly interfaces, and building trust in the security and reliability of digital currency systems.

Opportunities

A SWOT analysis helps to identify opportunities for integrating digital currencies into international trade. Opportunities may include increased financial inclusion, reduced transaction costs, increased transparency and improved trade facilitation. Understanding these potential benefits can guide policymakers in formulating strategies to harness the benefits of digital currencies within international trade frameworks.

Digital currencies have the potential to increase financial inclusion (Syarifuddin, 2023), especially for individuals and businesses. This accessibility can empower participants in international trade by enabling them to more easily participate in global economic activities. In addition, digital currencies facilitate seamless cross-border transactions by eliminating the need for currency conversions and reducing associated costs, benefiting businesses and households (Bordo & Levin, 2017; Raghuvveera & Bray, 2020).

This global accessibility levels the playing field for businesses of all sizes, opening up new markets and expanding trade opportunities. Furthermore, digital currencies based on blockchain technology offer greater transparency and traceability in international trade transactions (Diedrich, 2016). This means that blockchain records are likely to ensure the integrity of transactions, reduce fraud and build trust between transacting parties. Thus, high security and increased transparency (Diedrich, 2016) can benefit international trade, including improved supply chain visibility, reduced disputes and more efficient audit processes.

Digital currencies offer a range of benefits, including serving as a platform for innovative financial services and business models, creating new opportunities for economic growth, financing, risk transfer, technology transfer, investment and business development (Kowalska-Pyzalska et al., 2020; EY, 2015). Competition between digital and traditional currencies presents challenges and opportunities for central banks to redesign and reinvent CBDCs in line with their evolving objectives (Ozili, 2023). By harnessing the potential

of CBDCs, central banks can address existing inefficiencies in payment systems, promote financial inclusion, and improve the efficiency, security and transparency of transactions. It can also help central banks reshape the monetary landscape while ensuring stability, trust and resilience in the financial ecosystem.

Threats

The competition that digital currencies pose to traditional currencies raises a number of threats and challenges that central banks need to address. A key concern is the potential erosion of central banks' authority and control over traditional currencies as digital currencies gain widespread acceptance and use. This could reduce central banks' ability to influence key factors such as interest rates, inflation rates and overall economic stability (BIS, 2020). In addition, the decentralised nature of certain digital currencies, such as cryptocurrencies, poses risks to financial stability and consumer protection. Factors such as market volatility, inadequate regulation, and vulnerability to fraudulent activities or cyberattacks could undermine the integrity of financial systems (IMF, 2018). The anonymity and pseudo-anonymity features associated with certain digital currencies also raise concerns about their potential use in illicit activities, money laundering, and terrorist financing, requiring regulatory oversight by authorities (IMF, 2018).

Furthermore, the widespread adoption of digital currencies could disrupt the effectiveness of traditional monetary policy transmission mechanisms (Jacobs, 2018). If individuals and firms increasingly rely on digital currencies for transactions, this could reduce the impact of traditional monetary policy tools such as interest rate adjustments and reserve requirements (European Central Bank, 2018). However, it is important to recognise that the magnitude and nature of these threats depend on the specific design, characteristics and level of adoption of digital currencies. Regulatory frameworks, technological advances, and public perceptions will be critical in shaping the competitive dynamics between digital and conventional currencies (Nabilou, 2020; IMF, 2023).

7. Conclusions

In this article, digital currencies were analysed in a SWOT analysis. They offer strengths such as fast transactions, international business facilitation and time-saving benefits. However, weaknesses include limited reliability and trust, lack of central bank backing and anonymity. Opportunities lie in cross-border use and increased transaction speed. Threats include competition from traditional currencies,

vulnerability of banking institutions, liquidity problems and government control.

Establishing robust security measures, implementing effective regulatory frameworks, and raising awareness and understanding among users and regulators are essential steps to mitigate the challenges highlighted in the SWOT analysis. This approach will promote a secure and trustworthy ecosystem, facilitating the widespread adoption and realisation of the benefits of digital currencies in international trade and financial transactions. The following paragraphs provide a brief summary of the SWOT analysis, covering the strengths, weaknesses, opportunities and threats associated with digital currencies, and thus conclude this study.

In light of the research conducted by Islam et al. (2022) and Meng et al. (2021), it is clear that digital currencies have a number of **strengths** that increase their attractiveness for business transactions. These **strengths** include their ability to facilitate transactions quickly and efficiently, saving time for individuals and businesses. Furthermore, digital currencies overcome geographical and time zone barriers, enabling seamless international business operations. In particular, the use of digital currencies, such as bitcoin, eliminates the need for traditional intermediaries such as banks and credit card companies, thereby reducing the risk of double spending and ensuring the security of transactions. Capitalising on these **strengths** gives individuals and businesses greater financial autonomy, fostering a climate of innovation and efficiency in the global marketplace.

The **weaknesses** associated with digital currencies, including reliability issues, limited trust, and challenges related to central bank support and centralised economic systems, have been highlighted in previous research (Narayanan et al., 2016). These **weaknesses** are a significant barrier to the widespread adoption of digital currencies in international trade. The implementation of robust policies and practical regulatory frameworks that address user acceptance, security and privacy issues is essential to address these concerns and provide a secure and efficient platform for transactions, thereby ensuring the promotion of economic growth and global connectivity.

Digital currencies offer countless **opportunities** for cross-border transactions, transcending geographical boundaries and time zones. They offer a faster and more efficient way to conduct business, eliminating the complexities associated with

traditional payment methods. Furthermore, as explained by Diedrich (2016), digital currencies eliminate the need for multiple currencies, creating a unified platform that fosters trust and enables frictionless international trade. This transformative potential unlocks unprecedented economic opportunities and drives the development of innovative financial ecosystems built around speed, convenience and enhanced trust. By revolutionising global finance, digital currencies have the power to reshape cross-border transactions and pave the way for a new era of borderless economic interactions.

Competition between digital and traditional currencies is a **threat**. Bank failures under higher interest rates, as indicated by the Bank for International Settlements (BIS, 2020), highlight operational risks, while widespread acceptance, as suggested by Jacobs (2018), disrupts monetary policy transmission, and liquidity issues during interest rate escalations hinder stability – the complex nature of government control adds uncertainty. The digital currency market, as exemplified by the volatility of bitcoin, is characterised by fluctuations (BIS, 2020; Jacobs, 2018). Regulatory measures are essential to ensure the stability and resilience of the financial ecosystem in the face of advances in digital currencies.

In conclusion, the comprehensive analysis of the strengths, weaknesses, opportunities and threats (SWOT) associated with digital currencies provides valuable insights for stakeholders. The strengths of digital currencies, such as facilitating efficient transactions and eliminating geographical barriers, are consistent with the findings of Islam et al. (2022) and Meng et al. (2021). However, the weaknesses identified, such as limited reliability, lack of central bank backing, and potential violation of centralised economic systems, should not be overlooked (Narayanan et al., 2016). Despite these challenges, opportunities exist for cross-border use and expanded business potential, as highlighted in previous research (Islam et al., 2022; Meng et al., 2021). Nevertheless, threats posed by digital currencies, such as competition from traditional currencies and vulnerabilities in banking institutions, highlight the need for robust regulatory controls and risk management (BIS, 2020; Jacobs, 2018). By considering and effectively addressing these factors, stakeholders can navigate the complex landscape of digital currencies, harness their potential, and shape the future of financial innovation and global connectivity.

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Received on: 26th of June, 2023

Accepted on: 28th of July, 2023

Published on: 25th of August, 2023