

## The Impact of Digital Currencies, Trade Policies, and Climate Change Mitigation on Global Economic Stability



<sup>1</sup>Suratini, <sup>2</sup>Faqih El Wafa, <sup>3</sup>Rini Ariyanti, <sup>4</sup>Dhany Anggoro Hastomo, <sup>5</sup>Dodi Arif

<sup>1</sup>Universitas Yapis Papua, <sup>2</sup>UIN Antasari Banjarmasin, <sup>3</sup>Universiti Sains Islam Malaysia (USIM),

<sup>4</sup>Universitas Semarang, <sup>5</sup>Universitas Gunadarma, Indonesia

Email: tiensuratini@yahoo.com

### KEY WORDS

Digital Currencies,  
Trade Policies, Climate  
Change, Mitigation,  
Global Economic  
Stability

### A B S T R A C T

This study examines the impact of digital currencies, trade policies, and climate change mitigation on global economic stability. The primary objective is to qualitatively analyze the literature to understand how these factors interact to influence economic systems worldwide. The research employs a qualitative literature review methodology, synthesizing findings from academic articles, policy reports, case studies, and empirical studies to provide a comprehensive overview of current knowledge in this field.

The literature review methodology involves systematically collecting and analyzing scholarly sources that discuss various aspects of digital currencies, trade policies, and climate change mitigation. The study categorizes the literature into key themes, such as the role of digital currencies in reshaping financial markets and transactions, the influence of trade policies on global economic relationships and stability, and the impact of climate change mitigation efforts on economic sustainability. Thematic analysis is used to identify patterns and trends in how these factors affect global economic stability.

The findings indicate that digital currencies have the potential to enhance financial inclusion and efficiency but also pose risks related to regulatory challenges and market volatility. Trade policies significantly shape global economic interactions, where protectionist measures can lead to economic uncertainty, while liberal trade policies may promote growth and stability. Climate change mitigation efforts, including green investments and sustainable practices, are crucial for long-term economic stability but require substantial coordination and investment from global actors.



## 1. Introduction

The global economic landscape is increasingly shaped by digital currencies, evolving trade policies, and climate change mitigation efforts. Digital currencies, such as Bitcoin and Central Bank Digital Currencies (CBDCs), have introduced new dynamics into financial systems, challenging traditional monetary frameworks and financial stability (Narayanan et al., 2016). Trade policies, influenced by geopolitical shifts and economic priorities, affect global trade flows, market access, and economic relations among nations (Baldwin & Evenett, 2020). Concurrently, climate change mitigation policies are critical for addressing environmental sustainability, impacting economic stability through regulatory frameworks and adaptation measures (IPCC, 2021).

While substantial research has been conducted on digital currencies, trade policies, and climate change individually, there remains a significant gap in understanding their combined impact on global economic stability. Existing studies often address these factors in isolation, overlooking the complex interactions and cumulative effects they may have on the global economy (Keen, 2017; Baldwin, 2021). This research aims to bridge this gap by examining how these variables interrelate and collectively influence economic stability.

The urgency of this study stems from the rapid evolution of digital currencies and their integration into mainstream financial systems, the shifting dynamics of international trade policies, and the increasing importance of climate change mitigation in economic planning. As economies become more interconnected and reliant on digital and environmental factors, understanding their interplay is crucial for policymakers, investors, and international organizations to navigate emerging risks and opportunities (Mersch,

2019; UNEP, 2022).

Previous research has explored the implications of digital currencies on financial systems, noting their potential to disrupt traditional banking and payment systems (Catalini & Gans, 2016). Studies on trade policies have analyzed their impact on global trade volumes and economic growth, highlighting the role of protectionism and trade agreements (World Bank, 2018). Climate change research has examined economic impacts related to environmental policies and adaptation costs (Stern, 2007; IPCC, 2021). However, there is limited research integrating these dimensions to assess their combined effect on global economic stability.

This study introduces a novel approach by integrating the impact of digital currencies, trade policies, and climate change mitigation into a cohesive analysis of global economic stability. It aims to provide a comprehensive understanding of how these factors interact and affect economic stability, offering new insights into the systemic risks and opportunities presented by these evolving elements (Deloitte, 2020). By addressing these interactions, the study contributes to a more holistic view of global economic dynamics.

The primary objectives of this research are to:

- 1) Analyze the impact of digital currencies on financial stability and economic transactions.
- 2) Evaluate how trade policies influence global economic stability and trade relations.
- 3) Assess the effects of climate change mitigation efforts on economic stability and sustainability.
- 4) Explore the interactions between digital



currencies, trade policies, and climate change mitigation in shaping global economic stability.

This research offers several benefits:

- 1) **Policy Insights:** Provides policymakers with a nuanced understanding of how digital currencies, trade policies, and climate change mitigation efforts influence economic stability, aiding in the formulation of informed and cohesive strategies.
- 2) **Economic Planning:** Assists businesses and investors in anticipating the impacts of these factors on market stability and investment decisions, facilitating more effective economic planning.
- 3) **Academic Contribution:** Advances academic knowledge by integrating multiple dimensions of economic stability into a unified framework, filling a critical gap in the literature and fostering further research in this area.

## 2. Methodology

This study employs a qualitative research approach to explore the intricate relationships between digital currencies, trade policies, and climate change mitigation, and their combined impact on global economic stability. Qualitative research is particularly suited for this analysis as it allows for an in-depth understanding of complex phenomena and their interconnections, which are not easily quantifiable (Creswell, 2014). The research focuses on gathering rich, descriptive data to provide a comprehensive examination of how these factors interact and affect economic stability.

### *Data Sources*

The primary data sources for this study include academic journals, policy reports, industry publications, and interviews with experts in the

fields of economics, finance, and environmental policy. Academic journals and policy reports provide theoretical and empirical insights into the impacts of digital currencies, trade policies, and climate change mitigation (Baldwin, 2021; IPCC, 2021). Industry publications offer contemporary perspectives and real-world examples of how these factors influence global economic stability (Deloitte, 2020). Expert interviews are conducted to gain nuanced, experiential insights from practitioners and scholars who have first-hand experience with the implications of these issues (Yin, 2018).

### *Data Collection Techniques*

Data collection involves a combination of document analysis and semi-structured interviews. Document analysis includes reviewing and synthesizing relevant literature, including academic articles, government reports, and policy documents. This technique helps in understanding existing theories, policies, and trends related to digital currencies, trade policies, and climate change mitigation (Creswell, 2014). Semi-structured interviews are conducted with key informants, such as economists, policymakers, and industry experts, to gather qualitative data on their perspectives and experiences. This method allows for flexibility in exploring topics and provides an opportunity to delve deeper into specific aspects of the research questions (Kvale & Brinkmann, 2009).

### *Data Analysis Methods*

The data analysis follows a thematic analysis approach, which involves identifying, analyzing, and reporting patterns (themes) within the qualitative data (Braun & Clarke, 2006). The analysis begins with coding the data into categories that reflect recurring themes and concepts related to the impact of digital currencies, trade policies, and climate change mitigation on economic stability. This coding process is iterative, with ongoing comparisons and adjustments made to ensure the accuracy



and relevance of the identified themes. Thematic analysis is complemented by narrative analysis, which helps in constructing coherent stories from the data that illustrate how the factors under study interact and influence global economic stability (Riessman, 2008).

The integration of document analysis and expert interviews, along with the application of thematic and narrative analysis, provides a comprehensive understanding of the subject matter. This approach allows for a nuanced exploration of the complex interactions between digital currencies, trade policies, and climate change mitigation, offering valuable insights into their combined effects on global economic stability.

### **3. Result and Discussion**

#### ***3.1. Impact of Digital Currencies on Financial Stability***

Digital currencies, particularly cryptocurrencies and Central Bank Digital Currencies (CBDCs), have significantly altered the landscape of financial stability. Cryptocurrencies, such as Bitcoin and Ethereum, introduce volatility into financial markets due to their speculative nature and price fluctuations (Baur, Dimpfl, & Kuck, 2018). This volatility can pose risks to traditional financial systems, potentially leading to financial instability if not managed properly. On the other hand, CBDCs, which are issued by central banks, aim to provide a more stable digital alternative to traditional currencies and can enhance financial inclusion by providing a safe digital payment method (Auer & Böhme, 2020). However, the widespread adoption of CBDCs could challenge existing monetary policies and financial regulation frameworks, necessitating adjustments to ensure they do not destabilize financial systems (Rogoff, 2016).

Additionally, the integration of digital currencies into the global financial system has raised concerns about cybersecurity risks. Digital currencies operate on decentralized networks, which are susceptible to cyber-attacks and fraud, potentially undermining financial stability (Foley, Karlsen, & Putniņš, 2019). The increasing prevalence of cyber threats necessitates robust cybersecurity measures to protect digital currency infrastructures and ensure their resilience against potential disruptions (Zohar, 2015).

#### ***3.2. Trade Policies and Global Economic Stability***

Trade policies play a crucial role in shaping global economic stability by influencing trade flows, market access, and international economic relations. Protectionist trade policies, such as tariffs and trade barriers, can disrupt global supply chains, increase the cost of goods, and lead to trade wars, all of which can negatively impact economic stability (Baldwin & Evenett, 2020). For instance, recent trade disputes between major economies have led to increased volatility in global markets and uncertainty in international trade relations (Hummels, Munch, & Xiang, 2018).

Conversely, trade agreements and liberalization efforts can enhance economic stability by facilitating smoother trade flows and fostering economic cooperation between countries (Rose, 2004). Free trade agreements, for example, can reduce tariffs, lower trade costs, and promote investment, contributing to more stable and predictable economic environments (Panagariya, 2002). However, the benefits of trade liberalization are often unevenly distributed, which can lead to disparities between countries and sectors, affecting overall economic stability.

### **3.3. Climate Change Mitigation and Economic Stability**

Climate change mitigation efforts, including policies aimed at reducing greenhouse gas emissions and promoting sustainability, have profound implications for economic stability. The transition to a low-carbon economy involves significant investments in green technologies, renewable energy, and infrastructure, which can stimulate economic growth and create new job opportunities (Stern, 2007). However, the costs associated with these investments and the potential for economic disruptions during the transition period can pose risks to economic stability (IPCC, 2021).

Moreover, climate change mitigation policies can affect various sectors differently, leading to shifts in economic activity and potential imbalances. For example, carbon pricing mechanisms, such as carbon taxes and cap-and-trade systems, can increase the cost of carbon-intensive goods and services, impacting industries dependent on fossil fuels while benefiting those involved in renewable energy and energy efficiency (Aldy & Stavins, 2012). The effectiveness of these policies in achieving their goals while minimizing economic disruptions is crucial for maintaining overall economic stability.

The relationship between climate change mitigation and economic stability is both intricate and vital to address in the context of global economic governance. Climate change mitigation strategies, while essential for long-term environmental sustainability, pose immediate economic challenges and opportunities. Investments in green technologies and renewable energy sources are crucial for reducing carbon emissions and mitigating climate change impacts. These investments can drive economic growth and job creation in the green sector, potentially

enhancing overall economic stability by diversifying economic activities and reducing dependence on fossil fuels.

However, the transition to a low-carbon economy also entails significant economic adjustments and costs. Industries reliant on carbon-intensive processes may face disruptions, requiring substantial restructuring and adaptation. Additionally, implementing climate policies often involves upfront costs and financial risks that can affect economic stability in the short term. Balancing these short-term economic impacts with the long-term benefits of climate mitigation is essential for maintaining economic stability. Comprehensive policy frameworks that integrate climate goals with economic planning can help manage these transitions effectively, ensuring that the shift towards a sustainable economy contributes positively to overall economic stability and resilience.

### **3.4. Interactions Among Digital Currencies, Trade Policies, and Climate Change Mitigation**

The interplay between digital currencies, trade policies, and climate change mitigation can create complex dynamics influencing global economic stability. For instance, the adoption of digital currencies could affect international trade by altering payment systems and transaction costs, potentially impacting trade policies and economic relations (Gopinath, 2019). Similarly, trade policies that affect the flow of goods and services related to climate change mitigation technologies can influence the pace of global efforts to address climate change and its economic implications (Dechezleprêtre et al., 2015).

Furthermore, the integration of digital currencies into global financial systems can interact with trade policies and climate change mitigation efforts by influencing capital flows





and investment patterns. The ability of digital currencies to facilitate cross-border transactions efficiently might influence global trade dynamics and investment decisions, potentially affecting the implementation and effectiveness of climate policies (Peters & Panayi, 2016). Understanding these interactions is essential for developing comprehensive strategies that address the multifaceted challenges posed by digital currencies, trade policies, and climate change mitigation.

#### 4. Conclusion

The interplay between digital currencies, trade policies, and climate change mitigation has profound implications for global economic stability. Digital currencies introduce both opportunities and challenges for financial systems, with their potential to enhance transaction efficiency and financial inclusion being tempered by concerns over volatility and cybersecurity risks. Central Bank Digital Currencies (CBDCs) offer a more stable digital alternative, yet their integration into the financial system requires careful management to avoid destabilizing traditional monetary frameworks. Concurrently, trade policies significantly influence economic stability by shaping global supply chains and market access. Protectionist measures can lead to trade disruptions and economic uncertainty, while liberalization efforts generally support more stable economic environments by reducing trade barriers and fostering international cooperation.

Climate change mitigation efforts further complicate this landscape by necessitating substantial investments in green technologies and infrastructure, which can both stimulate economic growth and pose transition-related risks. The interaction of these factors—digital currencies, trade policies, and climate policies—creates a complex web of influences affecting global economic stability. Addressing these

challenges requires a holistic approach that balances innovation with regulation, supports sustainable economic practices, and ensures resilience in the face of emerging global risks. As economies navigate this multifaceted environment, the development of comprehensive strategies will be crucial for maintaining and enhancing global economic stability.

#### References

- Aldy, J. E., & Stavins, R. N. (2012). The promise and problems of pricing carbon: Theory and experience. *Journal of Environmental Economics and Management*, 64(3), 312-327.
- Auer, R., & Böhme, R. (2020). The economics of central bank digital currencies. Bank for International Settlements.
- Baldwin, R., & Evenett, S. J. (2020). COVID-19 and trade policy: Why turning inward won't work. Centre for Economic Policy Research.
- Baur, D. G., Dimpfl, T., & Kuck, K. (2018). Bitcoin, gold and the dollar: A replication and extension. *Finance Research Letters*, 25, 103-110.
- Dechezleprêtre, A., Martin, R., & Bassi, S. (2015). Climate change policies and innovation: Evidence from firm-level patents. *Journal of Environmental Economics and Management*, 60(2), 126-148.
- Foley, S., Karlsen, J. R., & Putniņš, T. J. (2019). Sex, drugs, and bitcoin: How much illegal activity is financed through cryptocurrencies? *Review of Financial Studies*, 32(5), 1798-1853.
- Gopinath, G. (2019). The impact of digital currencies on international trade and economic stability. International Monetary Fund.
- Hummels, D., Munch, J. R., & Xiang, C. (2018). The role of trade policy in global value chains. *Journal of International Economics*, 114, 154-166.
- IPCC. (2021). *Climate Change 2021: The Physical Science Basis*. Cambridge University Press.



- Panagariya, A. (2002). The liberalization of the Indian economy: What has been achieved and what remains to be done. *World Economy*, 25(1), 87-107.
- Peters, G. W., & Panayi, E. (2016). Understanding modern banking ledgers through blockchain technologies: Future of transaction processing and smart contracts. In *Banking Beyond Banks and Money* (pp. 239-278). Springer.
- Rogoff, K. (2016). *The curse of cash*. Princeton University Press.
- Rose, A. K. (2004). Do we really know that the WTO increases trade?. *American Economic Review*, 94(1), 98-114.
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge University Press.
- Zohar, A. (2015). Bitcoin: under the hood. In *Proceedings of the 2015 IEEE European Symposium on Security and Privacy* (pp. 184-197). IEEE.
- Baldwin, R. (2021). *The great convergence: Information technology and the new globalization*. Harvard University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications.
- Deloitte. (2020). *Global Blockchain Survey 2020*. Deloitte Insights.
- IPCC. (2021). *Climate Change 2021: The Physical Science Basis*. Cambridge University Press.
- Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the Craft of Qualitative Research Interviewing*. Sage Publications.
- Riessman, C. K. (2008). *Narrative Methods for the Human Sciences*. Sage Publications.
- Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods*. Sage Publications.
- Baldwin, R., & Evenett, S. J. (2020). COVID-19 and trade policy: Why turning inward won't work. Centre for Economic Policy Research.
- Baldwin, R. (2021). *The great convergence: Information technology and the new globalization*. Harvard University Press.
- Catalini, C., & Gans, J. S. (2016). Some Simple Economics of the Blockchain. *Communications of the ACM*, 59(11), 44-54.
- Deloitte. (2020). *Global Blockchain Survey 2020*. Deloitte Insights.
- IPCC. (2021). *Climate Change 2021: The Physical Science Basis*. Cambridge University Press.
- Keen, S. (2017). *Can We Avoid Another Financial Crisis?* Zed Books.
- Mersch, Y. (2019). *The Role of Central Banks in the Digital Age*. European Central Bank.
- Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Narayanan, V. (2016). *Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction*. Princeton University Press.
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge University Press.
- UNEP. (2022). *Emissions Gap Report 2022*. United Nations Environment Programme.
- World Bank. (2018). *World Development Report 2020: Trading for Development in the Age of Global Value Chains*. World Bank Group.

