

[Home](#) > [Money and Banking](#) > [Money Economy](#) > [Economics](#) > [Monetary Economics](#) > [Electronic Currency](#) > [Cryptocurrency](#) > [Bitcoin](#)

Chapter

PDF Available

Introduction to Bitcoin

December 2015
DOI:[10.1016/B978-0-12-802117-0.00001-1](#)
In book: Handbook of Digital Currency (pp.5-30)

Authors:



Lam Pak Nian



David Lee Kuo Chuen
Stanford University

Download full-text PDF

 Download citation

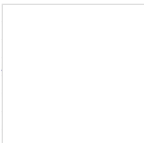
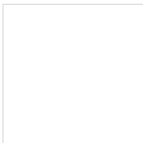
 Copy link



[Citations \(77\)](#) [References \(33\)](#) [Figures \(2\)](#)

Abstract and Figures

This chapter considers the evolution of alternative digital currencies from DigiCash to Bitcoin, the very digital currency that has spurred the development of this book. Specifically, this chapter explores the general features of Bitcoin and its benefits and risks before suggesting some conditions for a successful cryptocurrency to thrive. The chapter then concludes with optimism about the future of cryptocurrency and its underlying technology.



Explanation for the transaction.

Bitcoin supply.

Figures - uploaded by [David Lee Kuo Chuen](#) Author content

Content may be subject to copyright.

Discover the world's research

- 25+ million members
- 160+ million publication pages
- 2.3+ billion citations

Join for free

 Public Full-text ¹

Content uploaded by [David Lee Kuo Chuen](#) Author content

Content may be subject to copyright.

CHAPTER 1

Introduction to Bitcoin

Lam Pak Nian, David LEE Kuo Chuen

Sim Kee Boon Institute for Financial Economics, Singapore Management University, Singapore

Contents

1.1 The Next Generation of Money and Payments	6
1.2 Digital Currency as Alternative Currency	6
1.2.1 "Digital" versus "virtual"	6
1.2.2 Classifying alternative currencies	6
1.2.3 Why alternative currencies	7
1.3 Cryptocurrency	8
1.3.1 The nature of cryptocurrency	8
1.3.2 The beginning: eCash	8
1.3.3 Pioneering Internet payments with digital gold	9
1.3.4 Revival of cryptocurrency	9
1.3.5 The rise of Bitcoin	11
1.4 General Features of Bitcoin	14
1.4.1 Network and digital currency	14
1.4.2 Genesis and decentralized control	15
1.4.3 How Bitcoin works	15
1.4.4 Buying and storing bitcoins	17
1.4.5 Mining to create new bitcoins and process transactions	19
1.4.6 Security and cryptography	20
1.4.7 Pseudonymity	21
1.5 Benefits and Risks	22
1.5.1 Freedom of payments	22
1.5.2 Merchant benefits	23
1.5.3 User control	23
1.5.4 Platform for further innovation	24
1.5.5 Internal change and volatility	24
1.5.6 Facilitation of criminal activity	24
1.5.7 Legal regulatory attitude	25
1.5.8 Economic risk	25
1.6 Impact of the Digital Currency Revolution	25
1.7 Conditions for a Successful Cryptocurrency	26
1.7.1 Ecosystem	26
1.7.2 Incentives	26
1.7.3 Identification	27
1.8 Future Prospects and Conclusion	27
Acknowledgments	29
References	29

Handbook of Digital Currency© 2015 Elsevier Inc.
All rights reserved.

5

Citations (77)

[References \(33\)](#)

... Viruses and malware can spread through email, chat messages, data storage, multimedia, the internet and other electronic media. Phishing is the act of stealing personal information such as passwords, credit card details, victim user data targeted over the internet (Nian & Chuen, 2015) . This form of cybercrime is carried out by spoofing emails and instant messages to victims. ...

Legal Protection of Cryptocurrency Users Against Cybercrime Attacks[Article](#) [Full-text available](#)

Jun 2023

[View](#) [Show abstract](#)

... Bitcoin's blockchain is based on a consensus mechanism called Proof of Work (PoW), which ensures the validity of transactions and prevents double-spending. PoW requires computational work to be done to add a new block to the chain, which helps to prevent fraud and maintain the integrity of the system (Nian & Chuen, 2015) Bitcoin's short history has been marked by periodic high volatility. In the early years, the value of Bitcoin was relatively low, and it was mostly used by tech enthusiasts and early adopters. ...

An Economic Appraisal of Blockchain's Impact on Finance and Market Competition[Article](#) [Full-text available](#)

May 2023

Gunhee Lee · Ted Kim

[View](#) [Show abstract](#)

... This paper provides a historical analysis of the development of Bitcoin from its origins in 2008 to its current status as a mainstream financial asset. The paper examines the technological advancements that have enabled the growth of the Bitcoin ecosystem, as well as the regulatory and legal challenges that have emerged as a result of its increasing popularity (Nian & Chuen, 2015)

The Evolution of Bitcoin: A Historical Analysis and Future Prospects[Article](#) [Full-text available](#)

Jun 2023

● Shohal Hossain · Mithun Bairagi · Jasmin Aktar · ● Samme Akter Mithy

[View](#) [Show abstract](#)

... Innovation and advancements in blockchain technology have driven significant improvements in the scalability, privacy, and programmability of the Bitcoin network and other cryptocurrencies. These ongoing innovations, along with the growing interest in sustainable blockchain solutions and the potential impact of central bank digital currencies, will undoubtedly continue to shape the future of the cryptocurrency ecosystem [9] [14] [10]. ...

Deciphering the Blockchain: A Comprehensive Analysis of Bitcoin's Evolution, Adoption, and Future Implications[Preprint](#) [Full-text available](#)

Apr 2023

● Neelesh Mungoli

[View](#) [Show abstract](#)

... Innovation and advancements in blockchain technology have driven significant improvements in the scalability, privacy, and programmability of the Bitcoin network and other cryptocurrencies. These ongoing innovations, along with the growing interest in sustainable blockchain solutions and the potential impact of central bank digital currencies, will undoubtedly continue to shape the future of the cryptocurrency ecosystem [9] [14] [10]. ...

Deciphering the Blockchain: A Comprehensive Analysis of Bitcoin's Evolution, Adoption, and Future Implications

Article

Apr 2023

● Neelesh Mungoli

[View](#) [Show abstract](#)

... It was suggested by Satoshi [29] in 2008 and implemented on Bitcoin in 2009 as a new technique for storing, transmitting, and controlling information. A blockchain [30] is a collection of interconnected blocks that functions as a typical public ledger by maintaining an exhaustive list of transaction data. Due to its distributed nature, blockchain can prevent single points of failure. ...

An anonymous and fair auction system based on blockchain

Article

Full-text available

Mar 2023 · J SUPERCOMPUT

Zongli. Ye · ● Chin-Ling Chen · ● Ming-Wei Weng · Yong-Yuan Deng

[View](#) [Show abstract](#)

Adventures in Cryptology: Exploration-Worthy Project Topics

Article

May 2023

C. Beaver

[View](#)

Blockchain Based Inter-Organizational Secure File Sharing System

Conference Paper

Mar 2023

Rupsingh Mathwale · Ramarao Ramisetty

[View](#)

ANALISIS INVESTASI DALAM MEMREDIKSI PERGERAKAN HARGA BITCOIN DENGAN MENGGUNAKAN RECURRENT NEURAL NETWORK PADA PLATFORM INDODAX

Article

Full-text available

Aug 2022

● Julianto M.Kom.

[View](#) [Show abstract](#)

Blockchain

Chapter

Jan 2022

● T. Venkat Narayana Rao · Purva Pravin Likhar · ● Muralidhar Kurni · Kuppala Saritha

[View](#)

[Show more](#)

Recommendations Discover more about: [Bitcoin](#)

Chapter

Bitcoin and Arrival of Cryptocurrencies

January 2022

● Hanna Halaburda · Miklos Sarvary · ● Guillaume Haeringer

So far in this book, we saw digital currencies issued by digital platforms. These innovations deserve the title of “digital currencies,” and they are a good object to start explaining the economics of digital currencies.

[Read more](#)Book [Full-text available](#)

Handbook of Digital Currency: Bitcoin, Innovation, Financial Instruments, and Big Data

January 2015

● David Lee Kuo Chuen

Incorporating currencies, payment methods, and protocols that computers use to talk to each other, digital currencies are poised to grow in use and importance. The Handbook of Digital Currency gives readers a way to learn about subjects outside their specialties and provides authoritative background and tools for those whose primary source of information is journal articles. Taking a ... [\[Show full abstract\]](#)

[View full-text](#)Book [Full-text available](#)

Handbook of Digital Currency

January 2015

● David Lee Kuo Chuen

[View full-text](#)Article [Full-text available](#)

Bitcoin: a regulatory nightmare to a libertarian dream

May 2014 · Internet Policy Review

● Primavera De Filippi · Internet Policy Review

p>This article provides an overview of national policies and current discussions on the regulation of bitcoin in Europe and beyond. After presenting the potential threat that cryptocurrencies pose to governmental and financial institutions worldwide, it discusses the regulatory challenges and the difficulty for national regulators to come up with a sound regulatory framework, which the author ... [\[Show full abstract\]](#)

[View full-text](#)

Article

AN ANALYTICAL STUDY OF PRESENT POSITION OF BITCOINS

January 2017 · International Journal of Research - GRANTHAALAYAH

Alka Mittal

Bitcoin is a virtual currency that is created from computer code. It has no central bank and is not backed by any government. But it can be exchanged for goods and services or for any other currencies. They were launched in 2009 as a bit of software written under the name Satoshi Nakamoto. The present paper analyse the Indian Tax and legal considerations regarding Bit coins. It also analyse the ... [\[Show full abstract\]](#)

[Read more](#)Conference Paper [Full-text available](#)

Research and Challenges on Bitcoin Anonymity

September 2014

 Jordi Herrera-Joancomartí

Bitcoin has emerged as the most successful crypto currency since its appearance back in 2009. Besides its security robustness, two main properties have probably been its key to success: anonymity and decentralization. In this paper, we provide a comprehensive description on the details that make such cryptocurrency an interesting research topic in the privacy community. We perform an exhaustive ... [\[Show full abstract\]](#)

[View full-text](#)**Company**[About us](#)[News](#)[Careers](#)**Support**[Help Center](#)**Business solutions**[Advertising](#)[Recruiting](#)