Supplementary files

Table S1. Selected review papers.

No	Paper	Reference No. in the main text	Title
1	Hofmann et al. (2017)	[15]	Supply chain finance and blockchain technology: the case of reverse securitisation
2	Omran et al. (2017)	[16]	Blockchain-driven supply chain finance- Towards a conceptual framework from a buyer perspective
3	Bogucharskov (2018)	[38]	Adoption of blockchain technology in trade finance process
4	Gao et al. (2018)	[91]	A Real Time Stare in Market Strategy for Supply Chain Financing Pledge Risk Management
5	Liu et al. (2018)	[40]	Framework design of financial service platform for tobacco supply chain based on blockchain
6	Mao et al. (2018)	[90]	Credit evaluation system based on blockchain for multiple stakeholders in the food supply chain
7	Wang et al. (2018)	[17]	Construction of VMI Mode Supply Chain Management System Based on Block Chain
8	Zhu (2018)	[92]	The coordination mechanism of supply chain finance based on block chain
9	Casino et al. (2019)	[60]	Enhanced vendor-managed inventory through blockchain
10	Chakraborty (2019)	[63]	A Blockchain based Credit Analysis Framework for Efficient Financial Systems
11	Dasaklis and Casino (2019)	[61]	Improving Vendor-managed Inventory Strategy Based on Internet of Things (IoT) Applications and Blockchain Technology
12	Li (2019)	[55]	A Simple Survey for Supply Chain Finance Risk Management with Applications of Blockchain
13	Liu and Song (2019)	[43]	Research on Sustainability of Supply Chain Financial Model in Fujian Free Trade Zone
14	Yaksick (2019)	[59]	Overcoming Supply Chain Finance Challenges Via Blockchain Technology
15	Zhang et al. (2019)	[18]	A study on SMIE credit evaluation model based on blockchain technology
16	Zhu and Wang (2019)	[93]	Research on Blockchain Application for E-Commerce, Finance and Energy
17	Zou et al. (2019)	[94]	Research on Blockchain-Based Commercial Paper Financing in Supply Chain
18	Ali et al. (2020)	[25]	The state of play of blockchain technology in the financial services sector A systematic literature review
19	Chen (2020)	[20]	A blockchain-driven supply chain finance application for auto retail industry
20	Chod et al. (2020)	[10]	On the Financing Benefits of Supply Chain Transparency and Blockchain Adoption

21	Choi (2020a)	[21]	Supply chain financing using blockchain impacts on supply chains selling fashionable products
22	Choi (2020b)	[22]	Financing Product Development Projects in the Blockchain Era Initial Coin Offerings Versus Traditional Bank Loans
23	Choi et al. (2020)	[34]	Optimal pricing in on-demand-service-platform-operations with hired agents and risk-sensitive customers in the blockchain era
24	Huang (2020)	[99]	Application and Challenge of Blockchain in Supply Chain Finance
25	Jiang and Ru (2020)	[98]	Application of Blockchain Technology in Supply Chain Finance
26	Lahkani et al. (2020)	[47]	Sustainable B2B E-commerce and blockchain-based supply chain finance
27	Safiullin et al. (2020)	[56]	Assessing the impact of supply chain financing using blockchain technology on credit risks in the banking sector of the Russian Federation
28	Su and Wang (2020)	[23]	Case Study of How to Help Manufacturing Enterprises Obtain Loan Through Supply Chain Documents on Blockchain Platform
29	Su et al. (2020)	[97]	Research of Innovative Business Classification in Bulk Commodity Digital Supply Chain Finance
30	Tang and Zhuang (2020)	[95]	Financing a capital-constrained supply chain factoring accounts receivable vs a BCT-SCF receivable chain
31	Wang et al. (2020)	[96]	A Survey of the Application of Blockchain in Multiple Fields of Financial Services
32	Zheng (2020)	[19]	Blockchain-based intelligent contract for factoring business in supply chains
33	Chen et al. (2021)	[103]	Applying blockchain technology to reshape the service models of supply chain finance for SMEs in China
34	Choi (2021)	[33]	Creating all win by blockchain technology in supply chains Impacts of agents risk attitudes towards cryptocurrency
35	Dong et al. (2021)	[35]	Operations strategy for supply chain finance with asset-backed securitization Centralization and blockchain adoption
36	Kabir and Islam (2021)	[104]	Application of Blockchain for Supply Chain Financing Explaining the Drivers Using SEM
37	Liu et al. (2021a)	[100]	Mitigating information asymmetry in inventory pledge financing through the Internet of things and blockchain
38	Liu et al. (2021b)	[36]	Optimal strategies for financing a three-level supply chain through blockchain platform finance
39	Meng and Du (2021)	[108]	Zheshang Bank's blockchain + Supply Chain Finance Accounts Receivable Financing Model of Research
40	Ning and Yuan (2021)	[101]	How blockchain impacts the supply chain finance platform business model reconfiguration
41	Rijanto (2021)	[102]	Blockchain Technology Adoption in Supply Chain Finance

42	Sun et al. (2021)	[105]	Evolutionary Game Analysis of Blockchain Technology Preventing Supply Chain Financial Risks
43	Wang (2021a)	[106]	Research on Supply Chain Financial Risk Assessment Based on Blockchain and Fuzzy Neural Networks
44	Wang (2021b)	[109]	Application of blockchain technology in supply chain finance of Beibu Gulf Region
45	Wang et al. (2021a)	[37]	Value creation in blockchain-driven supply chain finance
46	Wang et al. (2021b)	[110]	Research on Construction of Supply Chain Financial Platform Based on Blockchain Technology
47	Xie and Li (2021)	[111]	Risk Analysis of Supply Chain Finance under Blockchain Technology - Based on AHP-FCM Model
48	Xu et al. (2021)	[107]	Research on the Influence Mechanism of Block Chain on the Credit of Transportation Capacity Supply Chain Finance
49	Yao and Qin (2021)	[112]	Block Chain Based Supply Chain Financial Risk Management Research
50	Yu et al. (2021)	[24]	Financing strategy analysis for a multi-sided platform with blockchain technology
51	Zhang et al. (2021a)	[113]	Analysis of supply chain finance based on blockchain
52	Zhang et al. (2021b)	[114]	Supply chain finance based on smart contract

Table S2 Challenges in the traditional SCF

Challenges	Proof quotes	Supporting references
Integration	"Implementing trade financing exerts great efforts in integrating related processes with finance, procurement, IT departments of organizations along supply chain." [38]	[16, 19, 38]
Coordination	"Stakeholders in trade finance have independent objectives of profit maximization regarding to different organizational structures, costs, and risks, which gives rise to poor performance of entire supply chain." [38] "Focal enterprises with strong competitiveness and voice play a key role in coordinating information flow, physical flow, financial flow, and business flow, leading to inequality and information asymmetry." [42] "SMEs always bear a long term of payment delay, which harms their assets' liquidity." 55]	[16, 38, 42, 43,55, 59]
Invoice fraud/ Data tampering	"Paper-based debit notes, contracts, and warehouse receipts are faced with the risk of tampering." [20] "Fraudulent trade financing and double financing resulted from asymmetry information damage the mutual trust among stakeholders in SCF, which impedes integrated management and warehouse supervision." [42] "There is a lack of risk control before financing among the existing risk management research." 55]	[20, 23, 41, 42, 55,56,64, 65]

Lack of trust	"Although having trusted intermediaries, the centralized SCF platforms still face problems such as information abuse, transaction unverifiable, and etc." [20]	[16, 20, 57,64, 65]
High cost	"Performing efficient supervision and verifying the authenticity of invoices are costly." [20] In SCF businesses, there are several intermediaries, leading to transactional risks, high costs, and low efficiency. [40] "As costs in document auditing, risk control, and operations are high, it is hard for financial institutions to full participate in SCF." [55]	[16, 20, 40, 55]
Double financing	One type of financial fraud that arouses widespread attention is double financing, where the enterprise sells the same invoice to two or more financial institutions. [41]	[15, 20, 23, 41, 42, 44, 65]
Default	The buyers may refuse to pay the invoice on the due date deliberately. [41]	[41]
Financing difficulty	"As the cable manufacturing belongs to mass production, railway company will not issue confirmation documents for the cable enterprise to get loans." [23] The financing needs of a large number of lower-tier supplier and distributors are still unable to meet. [55] "Financing difficulty is the huge obstacle to the development of SMEs." [51]	[16, 18, 19, 23, 43, 46, 55]
Regulation	"Regulation over intermediaries is chaos, resulting in the unbalanced resource allocation and the waste of resources." [43]	[43]

Table S3 Drivers of blockchain adoption

Drivers	Proof quotes	Supporting references
Cost reduction	"The analysis about the operational data indicates that the platform enables significant decrease in the cost of financing […]."[20] "Therefore, existing financial services can be strengthened by blockchain systems that provide lower costs for financial institutions." [47]	[16, 18, 19, 20, 47, 59, 60]
Business efficiency	"These vehicles can be identified and supervised uniquely, for example, automation program based on smart contracts…." [20] "Automatic cycle management through smart contracts can simplify the business process of accounts receivable factoring and improve efficiency." [42] Financial institutions can use information of related enterprises recorded on chain to do assessment and decide whether to finance the enterprises. [55] "In the case of Alibaba' supply chain, the deployment of blockchain improves the efficiency of logistics and digital documentation, reaching 74% and 75%, respectively." [47]	[16, 18, 19, 20, 23, 40, 42, 43, 47,55,56, 57, 59, 60]
Trust building	The authenticity of information flow and physical flow can be ensured by combining the blockchain platform with IoT and RFID. [23] "Blockchain platform records all the verifiable data, which enables trading history assessment based on trustable information. Consequently, counterparty risks that banks concern about can be reduced." [39] "The blockchain-enabled platform provides the real-time visibility and traceability for the pledges." [45]	[16, 17, 18, 19, 23, 39, 43, 45, 57, 60, 65, 90]
Easy access to financing	"Financial companies have access to the daily production and business data of the cable company, due to the layout of IoT and digital documentations recorded through blockchain." [23]	[16, 18, 19, 23]

Table S4 Barriers of blockchain adoption

Barriers	Proof quotes	Supporting references
Cybersecurity	"Blockchain suffers from a 51% attack owing to the collusion from participants." [38] "There are many possible types of common security breaches existed in blockchain, including DDoS attacks, private account hacking using Trojan horses, viruses from ads, 51% attack, data malleability problem, authentication and cryptography issues." [45]	[38, 45]
Non-supervision	Although transactions can be executed by smart contracts automatically without manpower, there are indeed many situations that may need mediation form outside the network. [38]	[38]
Privacy disclosure	"Privacy disclosure is also a major problem in SCF, where manufacturers' financing quotas, order quantities, prices, etc., are all business secrets." [42] "The blockchain technology enables transaction data to be credible and transparent, however, it also increases the risk of disclosing enterprise business privacy[46] "Enterprises are worried that transparency without effective data privacy protection mechanism may harm their business advantages." [47]	[39, 42, 46, 47, 65]
Cost	Resistance to the transition to blockchain technology is related to costs." [47]	[47]
Fraudulent source data	The fraudulent source data may hinder the adoption of blockchain in SCF, because they are immutable once recorded on chain. [45]	[45]
Policies	Weak contract institution, tax, legal systems, and regulations hinder effective interaction and standard procedures among supply chain partners. [16]	[16]
Lack of knowledge	Limited technical expertise and knowledge of using blockchain technology act as a barrier of adoption this new technology into the supply chain. [10]	[10, 48, 51]

Table S5 Other technologies in blockchain adoption in SCF

Technology	Proof quotes	Supporting references
IoT	"Other solutions, such as the IBM's autonomous decentralized peer-to-peer telemetry (ADEPT), propose an even higher integration level by combining internet of things (IoT) with BCTs." [15] "BCautoSCF is driven by IoT and BCT, where IoT is employed to facilitate data acquisition […]."[20] "The blockchain technology system is no longer limited to digital currency and has begun to be applied to the Internet of things (IoT) […]."[42]	[15, 20, 23, 42, 54, 64]
RFID	"Core physical and virtual infrastructures are needed to construct the platform, including blockchain implementation, IoTs, GPS, RFID, image recognition […]." [20]	[15, 20, 23]
GPS	"Core physical and virtual infrastructures are needed to construct the platform, including blockchain implementation, IoTs, GPS, RFID, image recognition […]." [20]	[20]
AI	"Core physical and virtual infrastructures are needed to construct the platform, including blockchain implementation, IoTs, GPS, RFID, image recognition […]." [20] Artificial intelligence, combined with BCT, could then be proactively used to identify when and where money-laundering activities are most likely to emerge. [59]	[20, 45, 59, 90]
ERP	"Certain forms of automation already exist with the self-billing procurement model, which can be deployed in the large ERP systems." [15] "Alternatively, other firms are developing tools to integrate particular ERP systems with distributed ledgers." [54]	[15, 54]
EDI	"For instance, such a configuration might capture orders, in the same way that electronic data interchange (EDI) can be used to capture orders." [54]	[54]