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The Development Fit Index of Digital Currency Electronic Payment between China and the One Belt One Road Countries

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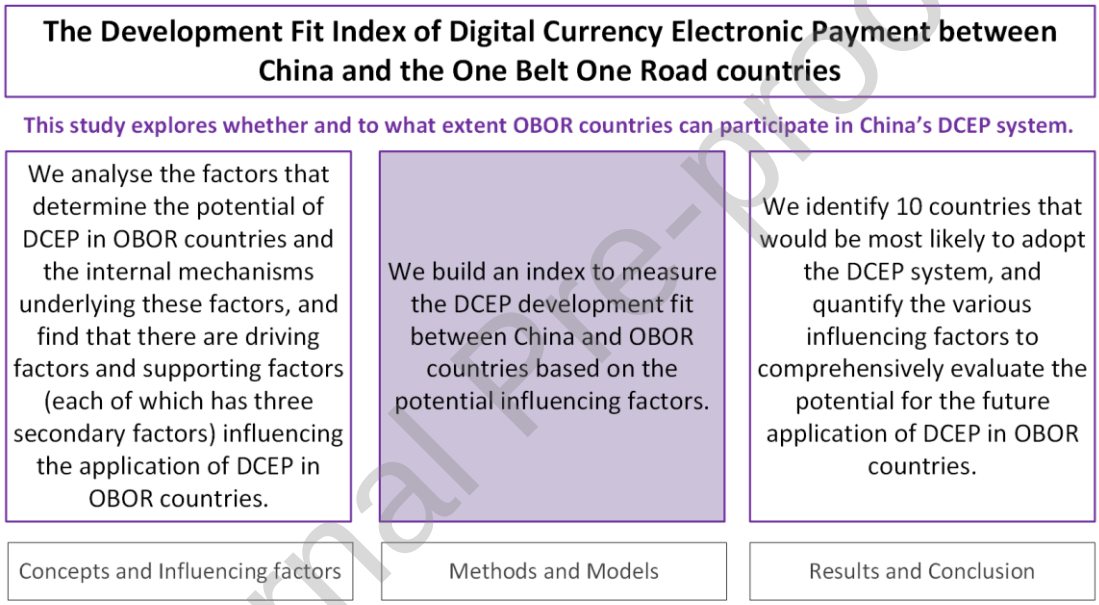
Abstract

Central bank digital currency is one of the most important financial innovations in the global economy. However, the understanding of its cross-border application is insufficient. This study analyses the driving and supporting factors that affect the application of China's digital currency electronic payment system in One Belt One Road countries. Using country-level data for 2019, this study proposes a systematic

[1] **These authors contributed equally to this work.**

development fit index, consisting of six first-level indicators and 41 proxy variables. The index value shows that fit is determined by bilateral investment, bilateral trade, level of financial development, geopolitics, economic foundation and infrastructure development. Among the sample One Belt One Road countries (average index value 56.39), Malaysia (83.98), Singapore (80.5), Thailand (78.76), Russia (76.25) and the United Arab Emirates (75.48) have the most potential to participate in the new monetary system launched by China. The results provide practical implications for Chinese and OBOR governments in making related strategies.

Graphical abstract



Keywords: digital currency electronic payment, development fit index, Belt and Road countries, central bank digital currencies

1. Introduction

Central bank digital currency (CBDC) is a form of currency that allows households and businesses to directly make electronic payments using money issued by a central bank and is one of the most important innovations in the world of finance (Kshetri, 2021; Laboure et al., 2021). Some studies examine the effects of CBDCs on the economic system by focusing on banking systems and currency policies (Agur et al., 2022; Lee et al., 2021; Mancini-Griffoli et al., 2018). However, the literature neglects the examination of the cross-border application of digital currency electronic payment (DCEP)[2], which has a significant effect on the global economy.

[2] Digital Currency Electronic Payment (DCEP), is the national digital currency of China using fintech

This issue is important as the DCEP system, which runs on blockchain technology, has more advantages than traditional currency payment systems (Khiaonarong and Humphrey, 2019). Furthermore, cross-border DCEP can reduce transaction costs by reducing the settlement time and improving transaction monitoring efficiency (Elsayed and Nasir, 2022). However, cross-border DCEP can be complicated, as there are compatibility issues between countries with different political, economic, financial, trade and infrastructure environments (Bech et al., 2020; Khiaonarong and Humphrey, 2019). Using the bilateral cooperation between China and the One Belt One Road (OBOR) countries in international trade, economics, finance and politics as a theoretical framework, this study explores the factors that affect the cross-border application of China's DCEP and proposes a fit index for the application of DCEP between China and OBOR countries.

China is chosen as the research setting for this study because of its leading role in applying and promoting DCEP worldwide. China has completed the domestic pilot run of DCEP and is now expanding the scope of the pilot; it has also started to use DCEP for cross-border payments.[3] With the rapid development of its DCEP system, China is further motivated to promote DCEP internationally. It is believed that countries with a first-mover advantage obtain more economic benefits than other countries and increase their voice in international finance by attracting followers (Auer and Böhme, 2020). Given the size of its economy and the extent of its international development interests, the continued rollout of China's sovereign digital currency may have a substantial effect on other countries (Goodell and Shen, 2021). In addition, China may become a standard-setter in the application of global central bank digital currency (Barontini and Holden, 2019).

We choose OBOR countries as the sample for China's application of DCEP for the following reasons. As the author of the OBOR policy, China is likely to choose OBOR countries as the first group of experimental partners to cooperate with (Wei,

technologies, including blockchain, big data analytics, cryptographic technology and cloud computing. It is one of the latest developments in financial services to the finance economy and to the process of financialization (Peters et al., 2022).

[3] The People's Bank of China first issued its digital currency plan in 2014. Since 2019, PBOC has accelerated the speed of development of this currency. By 30 June 2021, there were more than 1.32 million DCEP pilot scenarios, with 20.87 million personal and 3.51 million public accounts opened. The total number of transactions was over 70.75 million, amounting to approximately 34.5 billion yuan[13]. In 2022, the pilot version of the digital RMB App was launched in major app stores, such as Apple, Huawei and Xiaomi (http://www.china-cer.com.cn/jinrongkeji/2021042712369.html).

2021). DCEP is not limited by geographical location as a digital currency payment system. Unlike other digital currencies, such as Bitcoin, a DCEP issued and managed by a nation's central bank is a sovereign currency. Thus, promotion of its cross-border applications is related to the political and economic relationship between countries. The OBOR countries are compatible with China in terms of geographic distance, economic cooperation, geopolitics, history and culture, which may yield increased benefits from cooperation in the financial system (Fu et al., 2018).

To understand what may affect the development fit of DCEP between China and OBOR countries, this study performs the following steps. First, we analyse the factors that determine the potential of DCEP in OBOR countries and the internal mechanisms underlying these factors. We find that there are driving factors and supporting factors (each of which has three secondary factors) influencing the application of DCEP in OBOR countries. Second, we build an index to measure the DCEP development fit between China and OBOR countries based on the potential influencing factors. Third, we quantify the various influencing factors to comprehensively evaluate the potential for the future application of DCEP in OBOR countries.

This study makes several theoretical contributions to the current understanding of the internationalisation of DCEP. First, it explores the compatibility between China and OBOR countries. According to the results of the fit index, the 10 OBOR countries that have the best fit with China's cross-border DCEP cooperation are Malaysia, Singapore, Thailand, Indonesia, Russia, United Arab Emirates, Vietnam, Turkey, Poland and Kazakhstan. Second, this study proposes the criteria, including driving and supporting factors, for selecting the countries to cooperate in the cross-border application of the DCEP system based on the results of the fit index. The driving factors are more important than the supporting factors if the total value of the fit index is close to 100. The study also provides a methodology for measuring the compatibility between countries cooperating in the application of cross-border DCEP. Last, it proposes an original theoretical framework for analysing compatibility for the internationalisation of DCEP. We make multi-level variables comparable by assigning weights to the dimensions.

The remainder of this paper is organised as follows. Section 2 presents the theoretical background. Section 3 presents our methodology and descriptive statistics for the data used in this study. Section 4 reports and discusses our empirical findings. Section 5 concludes the study and provides policy implications.

2. Theoretical background

2.1 Driving factors for DCEP in OBOR Countries

The motivation for developing DCEP varies by country. One of the motivations is an improvement in transaction efficiency, which leads to a reduction in transaction costs and an improvement in financial supervision capabilities (Chorzempa, 2021). Countries driven by this motivation may be more likely to accept DCEP and participate in internationalisation (Jing et al., 2021) than countries not driven by this motivation. Therefore, it is inferred that OBOR countries that have greater involvement with China in bilateral trade and investment may be more likely to accept China's DCEP. The level of financial development is also crucial in driving a country to participate in China's DCEP system.

Bilateral trade may motivate OBOR countries to participate in the new monetary system and can be further divided into three dimensions: the scale of trade, trade dependence and trade efficiency. The scale of trade is the first driving force. Supposing an OBOR country has large-scale bilateral trade with China, this country would save on the costs generated by bilateral trade by participating in the DCEP system. The larger the scale of bilateral trade between an OBOR country and China, the stronger the motivation for it to join China's DCEP system (Ghossein et al., 2021). Second, trade dependence is an indicator of how much a country's economy depends on external trade. An export-oriented economy with high trade dependency is more likely to expand the scale of trade compared with countries with less trade dependency. The application of DCEP reduces the cost of trade with China. Thus, countries with a high trade dependency may more willing to accept DCEP application than countries with a low trade dependency. Third, the application of DCEP would signify that all payments are settlements, which would significantly improve trade efficiency and payment security (Devriese and Mitchell, 2006). Hence, countries with high trade efficiency are more likely to benefit from new technologies such as DCEP than countries with low trade efficiency.

Investment cooperation is the second driving force and is composed of the scale of investment and cooperation. First, a large scale of investment signifies a large number of mutual investment projects between China and OBOR countries, which corresponds to a large amount of cross-border capital transfers in investment and cooperation (Bar-Ilan and Borodko, 2019). Therefore, DCEP participation should reduce the costs of cross-border capital movement. Second, due to the influence of its government, China may use DCEP as the designated payment method when providing

aid-type investment and cooperation to OBOR countries (Morgan, 2019). In addition, OBOR countries with more investment and cooperation with China also generally have better political relations and mutual trust with China than do other countries (Lu et al., 2021), which may lead to more active participation in DCEP.

The third driving factor is the level of financial development of a country, which can be divided into five dimensions: foreign exchange reserves, cross-border payment costs, financial supervision, financial intermediation and currency interoperability.

Foreign exchange reserves. The higher the foreign exchange reserves of a country, the higher the cost of foreign exchange management, and the more likely the country will be affected by the U.S. dollar policy (Zhang and He, 2009). Therefore, by participating in DCEP, it is possible to reduce the cost of foreign exchange management and resist the U.S. dollar hegemony (Qian, 2018).

Cross-border payment cost. According to the World Bank (2019), the average cost of global retail remittances is 6.51% of the total remittances. Therefore, the use of DCEP may reduce the cost of cross-border remittances, which would particularly benefit low-value cross-border payments (Qian, 2019). Therefore, we expect OBOR countries with a high level of cross-border payments to be more likely to participate in the DCEP system than countries with a low level of cross-border payments.

Financial regulation. As mentioned above, DCEP accurately tracks digital currency through big data analytics. Moreover, DCEP can be programmed to execute automatic payments according to the conditions and rules of a smart contract agreed upon by both parties that do not affect the functions of currency (Zeng, 2021). Therefore, we expect countries with a high level of financial regulation to be more inclined to apply DCEP than countries with a low level of financial regulation.

Financial intermediation. One of the most important functions of DCEP is to reduce the effects of traditional currency as an intermediate financial agent (Bindseil, 2019). Countries with more developed conventional financial intermediaries may face more challenges in transitioning from conventional financial intermediaries to DCEP. Therefore, we propose that the level of financial intermediation is negatively related to DCEP application.

Currency interoperability. Countries with high currency interoperability with China, such as those with currency swap agreements or RMB clearing banks, are more likely to apply DCEP than countries with low currency interoperability.

2.2 Supporting Factors for DCEP in OBOR Countries

The supporting factors for DCEP are different from the driving forces. The potential use of DCEP is affected by dynamic factors as well as basic supporting conditions, such as geopolitics, economic foundation and infrastructure.

Geopolitical relationships with China may directly affect the likelihood of a country adopting the DCEP system, even if the economic benefits are not obvious (Cukierman, 2020). Geopolitics is further divided into three dimensions: political communication, friendly relations and cultural exchanges. These three dimensions are positively related to the potential application of DCEP by OBOR countries.

The effect of economic foundation on DCEP application is obvious. First, countries with strong economic foundations are more likely than other countries to apply DCEP successfully (Chang et al., 2021) and benefit from the resulting efficiency, scale and demonstration effects. Economic foundation can be further divided into four dimensions: aggregate economic level, consumption of income, degree of urbanisation and degree of economic freedom.

The level of infrastructure development of a country is also relevant to the application of DCEP as a new currency form whose circulation is based on new technology (Tsai et al., 2018). Therefore, DCEP does not require the establishment of a new acceptance network. Furthermore, China can easily distribute digital RMB currency through existing payment platforms such as Alipay and WeChat Pay Wallet due to its digital nature. However, DCEP application requires superior Internet and mobile communications infrastructure. Therefore, OBOR countries with a mature infrastructure for the Internet, mobile communications, cross-border connectivity and international shipping are more likely to participate in the DCEP system than countries that lag behind in terms of Internet and mobile communications infrastructure. Infrastructure is therefore positively related to the likelihood of DCEP application by OBOR countries.

3. Research Method

To evaluate whether OBOR countries might accept and apply DCEP with China, we construct a comprehensive and systematic development fix index (DFI). All of the factors are screened, standardised, evaluated and weighed before the analysis. This section outlines the methodology of the DFI.

3.1 Samples and Data

The sample in this study includes 52 OBOR countries: nine in Southeast Asia, six in South Asia, 16 in West Asia and North Africa, 16 in Central and Eastern Europe

and four in mid-Asia (see Appendix 3). We choose 2019 as the observation year, considering the recency of data for all the variables, and use cross-sectional data for the DFI.[4] We combine data from the China Stock Market and Accounting Research (CSMAR) and Chinese Research Data Services Platform (CNRDS) databases. Table 1 presents the details of the data sources.

3.2 Indicator selection and standardisation

First, we set six first-level indicators for the development fit index: bilateral trade, investment cooperation, level of financial development, geopolitics, economic foundation and infrastructure. Each first-level indicator is divided into several second-level indicators, which are, in turn, measured by proxy variables. Table 1 presents the data sources, indicator descriptions and proxy indicators. For comparability, we normalise all proxy variables and standardise the index score (Table 1) at 5 points (Khajeddin et al., 2019; Shiboski et al., 2017). Appendix 2 presents the details.

Table 1. DCEP DFI between China and OBOR Countries

First-level Indicator	No.	Secondary Indicator	Proxy Variable for Secondary Indicator	Proxy Variable Description	Unit	Data Source	Variable Max Score ($\overline{Z_{ijl}}$)	Weight (W_{ijl})
1 Bilateral Trade	1.1	Scale of trade	Total import and export of commodities	China's total import and export of goods from an OBOR country in 2019	Ten Thousand U.S. Dollars	CSMAR	5*	2
	1.2	Trade dependence	Share of merchandise trade	The share of a country's merchandise trade in its GDP in 2019	%	BRRD, Economic and Financial Database of CNRDS	5*	1
	1.3	Trade efficiency	Ease of doing business	Ease of doing business index (1 = *most business-friendly regulations*) in 2019			5*	1
			International trade transaction speed	(Import time + Export time)/2 in 2019	Hours	BRRD, Foreign Trade Database of CNRDS	5*	1
2 Investment Cooperation	2.1	Scale of investment	Direct investment stock	The stock of Chinese direct investment in an OBOR country in 2019	Ten Thousand U.S. Dollars	China's Direct Investment in OBOR Countries, CSMAR	5*	2
			Direct investment flow	Chinese FDI flow to an OBOR country in 2019	Ten Thousand U.S. Dollars		5*	1
			China's acceptance of direct investment	Direct investment in China by an OBOR country in 2019	Ten Thousand U.S. Dollars	Statistical Table of Actual Investment in China by Business People from OBOR Countries, CSMAR	5*	1
	2.2	Scale of cooperation	Cooperation to complete the turnover	China's cooperation with a country to complete the turnover in 2019	Ten Thousand U.S. Dollars	China's Economic Cooperation with OBOR Countries, CSMAR	5*	2
			Number of people dispatched	The number of China's cooperation projects with an OBOR country in 2019	Number of Persons	China's Economic Cooperation with OBOR Countries, CSMAR	5*	1
3 Level of Financial Developmen	3.1	Foreign exchange reserves	Total reserves	Total reserves (including gold in current U.S. Dollars) in 2019	U.S. Dollars	BRRD, Economic and Financial Database of	5*	2

[4] The most recent available data on political communications and economic freedom are from 2016 and 2018, respectively. Both variables have been comparatively steady over the last three years.

t						CNRDS		
	3.2	Cross-border payment costs	Cross-border remittance costs	Average transaction costs for sending money to a specific country in 2019	%	BRRD, Foreign Trade Database of CNRDS	5*	5
	3.3	Financial supervision	Coverage of the public credit information system	The number of people covered by the public credit information system to the total number of adults in 2019	%	BRRD, Infrastructure database of CNRDS	5*	1
	3.4	Financial intermediation	Number of ATMs	Number of automated teller machines (ATMs) per 100,000 adults in 2019		BRRD, Economic and Financial Database of CNRDS	5!	1
	3.5	Currency interoperability	Currency swap agreement	Whether a currency swap agreement is in place until January 2021		Statistics of China's Bilateral Local Currency Swap Agreements, CSMAR	5#	2
			Local currency swap clearing network	Whether there is a local currency mutual clearing network in 2016		Financial Interconnection of State-owned Assets Between China and OBOR Country Initiative, CSMAR	4#	1
			RMB clearing banks	Whether there is an RMB clearing bank in 2016			3#	1
			Overseas distribution of Bank of China	Whether there are any overseas branches of the Bank of China in 2016			3#	1
4 Geopolitics	4.1	Political communication	High-level visits	The level and frequency of mutual visits by high-level leaders of the two countries in 2016		Policy Communication between China and Countries along the Belt and Road, CSMAR	5	2
			Partnerships	The level of diplomatic partnerships established by China with a country in 2016			5	2
			Joint statements	Whether a country has signed a joint statement with China to strengthen bilateral cooperation in 2016			3	2
			Bilateral agreements	The number of bilateral agreements signed between two countries in the fields of trade, investment, tariffs and financial supervision in 2016			4	2
			Cooperation/Memorandums of Understanding	Whether there is a memorandum between the two countries for strengthening cooperation and jointly promoting the construction of the OBOR, or a memorandum of cooperation between the OBOR Initiative and the country's strategy in 2016			3	2
	4.2	Friendly relations	Number of sister cities	Number of sister cities established between China and OBOR countries in 2019		Statistical Table of Friendship Cities Established between China and Countries along the Belt and Road, CSMAR	3#	1
	4.3	Cultural exchange	Number of Confucius Institutes	Number of Confucius Institutes established by China in OBOR countries in 2019		Statistics of Confucius Institutes and Classrooms in Countries along the Belt and Road, CSMAR	3#	1
5 Economic Foundation	5.1	Aggregate economic level	GDP	Gross domestic product in 2019	U.S. Dollars (2010)	BRRD, Economic and Financial Database of CNRDS	5*	1
	5.2	Income consumption	GDP per capita	GDP per capita in 2019	U.S. Dollars (2010)		5*	2
			Household final consumption expenditure	Household final consumption expenditure in 2019	U.S. Dollars (2010)		5*	1
	5.3	Urbanisation rate	Urban population ratio	Urban population as a share of the total population in 2019	%	BRRD, Population Employment Database of CNRDS	5*	1
	5.4	Degree of economic freedom	Trade freedom indicator	Includes the trade-weighted average tariff rate and the number of non-tariff barriers; two mid-level indicators in 2018		Index of Economic Freedom of Countries Along the Belt and Road, CSMAR	5*	1
			Investment freedom	Includes whether there is a foreign investment code, whether foreign enterprises are encouraged to participate in investment fairly, whether foreign exchange is controlled, whether foreign companies enjoy the same treatment as domestic companies, whether the government imposes restrictions on payments, transfers and capital transactions, whether certain			5*	1

				industries reject foreign investment in 2018				
			Financial freedom index	Includes the degree of government regulation of banking and other financial services, the difficulty of opening and operating financial services companies and the government's influence on the allocation of credit funds in 2018			5*	1
			Monetary freedom index	Includes the weighted average inflation rate and price regulation in the previous three years; two mid-level indicators in 2018			5*	1
6 Infrastructure	6.1	Internet facilities	Number of internet servers	Number of secure internet servers per million people in 2019		BRRD, Infrastructure Database of CNRDS	5*	1
			Internet penetration	Fixed broadband subscriptions per 100 people in 2019			5*	1
	6.2	Mobile communications	Mobile phone usage	Number of telephones rented by mobile cellular communication system per 100 people in 2019			5*	2
			Number of telephone lines per 100 people	Number of telephone lines per 100 people in 2019			5*	1
	6.3	Cross-border unicom	Cross-border communication infrastructure	Existence of cross-border communication infrastructure in 2016		Facility Connectivity between China and Countries along the Belt and Road, CSMAR	2	1
			Cross-border transmission line construction	Existence of a cross-border transmission line facility in 2016			3	1
			Cross-border oil and gas pipeline construction	Existence of cross-border oil and gas pipeline facilities in 2016			3	1
	6.4	International shipping	Air traffic	Departures of registered global carriers in 2019		BRRD, Infrastructure Database of CNRDS	5*	1
			Container terminal throughput	Container terminal throughput in 2019	20 Foot Equivalent		5*	1

Note: CSMAR (https://www.gtarsc.com); CNRDS (https://www.cnrds.com). The * in the variable score column indicates that the variable is in the same direction with a 5-quantile standardisation; the larger the index number, the higher the score after labelling. The superscript ! in the index score column indicates that the index is subject to reverse 5-quantile normalisation; the larger the index number, the lower the marked score. The # in the index score column indicates that the index is subject to the same-direction 2-quantile standardisation process; the larger the index number, the higher the annotated score.

3.3 Measurement

We assign weights to each indicator through the expert scoring method due to the differences in each indicator's fit to the DCEP DFI (Darban et al., 2021; Rohde et al., 2020; Weimer et al., 2019). We distribute a questionnaire to 26 academics in international finance, cross-border trade and other related fields, senior banking professionals and government department staff. Based on the scores of the questionnaire, we aggregate the extreme values and average them to obtain the final weights. Column 9 in Table 1 reports the details of weight setting.

The DCEP DFI value is a natural number between 0 and 100. Therefore, the higher the index number, the more likely the OBOR country is to participate in the DCEP system. We follow Koo et al. (2016), Mohsin et al. (2021) and Yin and Xu (2022) in constructing the index. DFI is calculated by the sum of the proxy variable score (Z_{ijl}) of each secondary indicator multiplied by the weight of the variable (W_{ijl}), and the highest score of each secondary indicator proxy variable ($\overline{Z_{ijl}}$) multiplied by the ratio of the sum of the result of the variable weight (W_{ijl}), as follows:

$$DFI = \sum_{i=1,j=1,l=1}^{i=6,j=5,l=5} Z_{ijl} \times W_{ijl} \Big/ \sum_{i=1,j=1,l=1}^{i=6,j=5,l=5} \overline{Z_{ijl}} \times W_{ijl} \times 100 \quad (1)$$

where i is the serial number of the first-level indicator, ranging from 1 to 6. DFI_1-DFI_6 are the indicators of the fit values of bilateral trade, investment cooperation, level of financial development, geopolitics, economic foundation and infrastructure, respectively. j is the serial number of the second-level indicator under the first-level indicator, ranging from 1 to 5 (e.g., $DFI_{1,3}$ indicates the fit index of trade efficiency under bilateral trade; $DCI_{5,4}$ is the value of the fit index of the degree of economic freedom under economic foundation). l is the serial number of the proxy variable under the secondary indicator, ranging from 1 to 5 (e.g., $DFI_{1,3,1}$ is the first proxy variable of trade efficiency under bilateral trade, namely, the fit value of convenience; $DI_{1,3,1}$ is the fit value of investment freedom, the second proxy variable of economic freedom under economic foundation). The relationships between the DFI of the OBOR countries and the fit value of the first-level indicators, second-level indicators and proxy indicators are presented in Equations (2), (3) and (4), respectively.

$$DFI = \sum_{i=1}^{i=6} DFI_i \quad (2)$$

$$DFI_i = \sum_{j=1}^{j=5} DFI_{ij} \quad (3)$$

$$DFI_{ij} = \sum_{l=1}^{l=5} DFI_{ijl} = \sum_{l=1}^{l=5} Z_{ijl} \times W_{ijl} \Big/ \overline{Z_{ijl}} \times W_{ijl} \times 100 \quad (4)$$

4. Results and Discussion

Figure 1 shows the DFI of the 52 OBOR countries participating in the DCEP system. Malaysia has the highest score, with a DFI of 83.98, indicating that it is currently in line with China in the application of DCEP. Yemen has the lowest index score, with only 20.08, meaning that it is the least likely to apply DCEP among the OBOR countries. Of the 52 countries, 12 have a score over 70 on the index, 22 have a score between 50 and 70 and 18 have a score between 20 and 50.

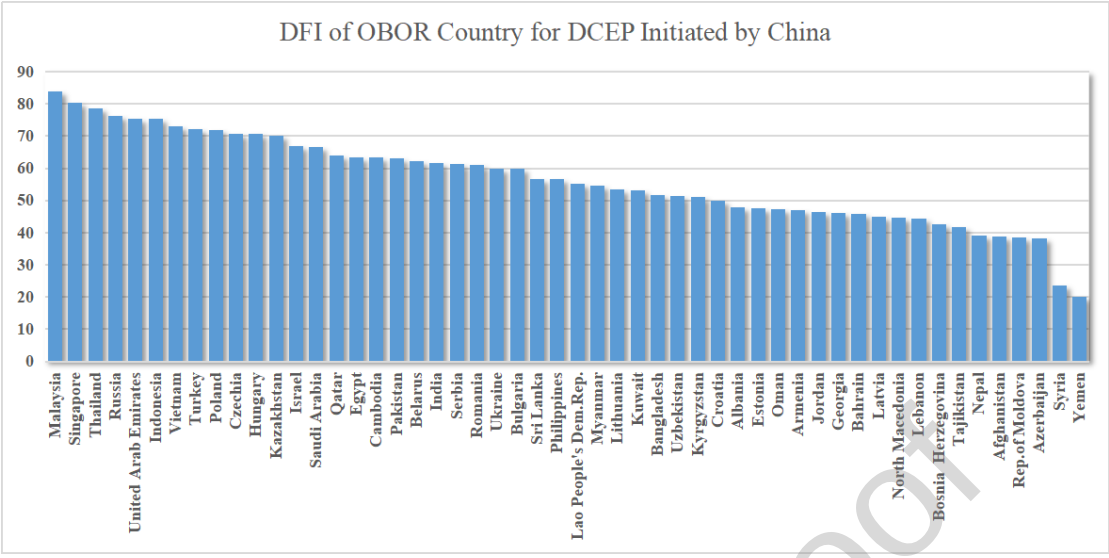


Figure 1. DFI of OBOR Countries for China's DCEP

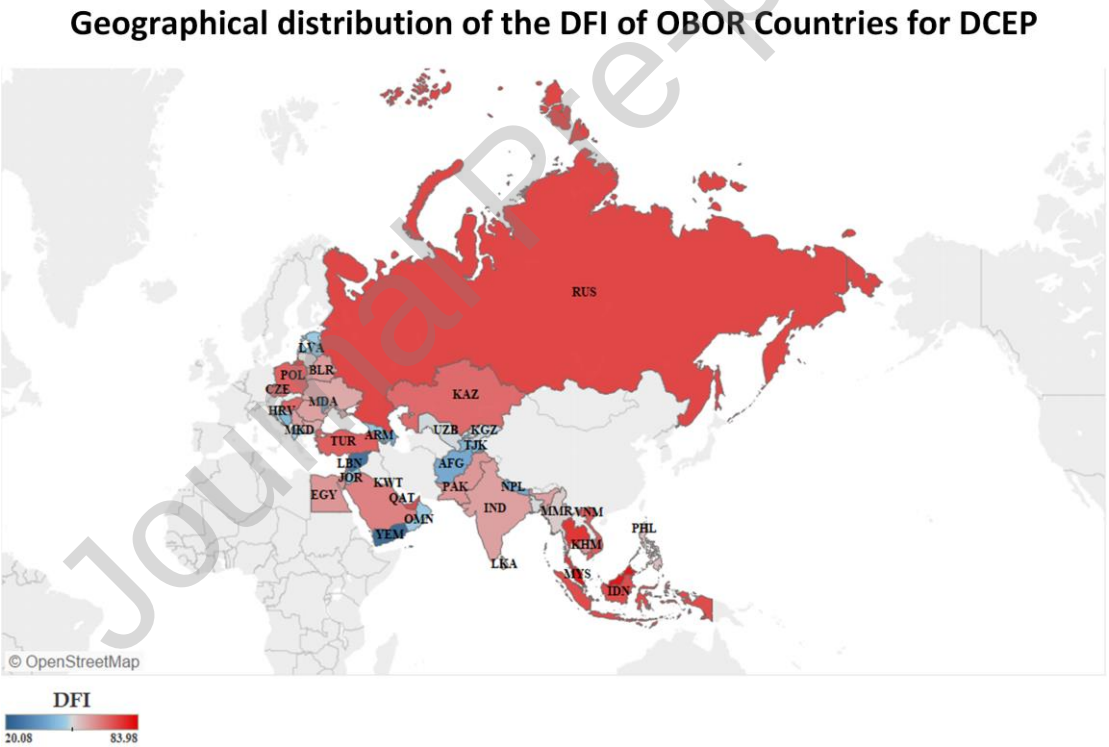


Figure 2. Geographical distribution of the DFI of OBOR Countries for DCEP

Figure 2 shows that the countries with a high DFI value are geographically agglomerated. The three countries with the highest DFI value are all Southeast Asian countries and located south of China. The remaining five Southeast Asian countries have a DFI value higher than 54, which means they have strong potential for DCEP adoption.

The second region with high potential is West Asia and Central Europe. Seven countries, namely Russia, Poland, Czechia, Hungary, Kazakhstan, Belarus and Ukraine, have a DFI value higher than 60. Among them, five countries, namely Russia, Poland, Czechia, Hungary and Kazakhstan, have a DFI value of more than 70. These countries are located northwest of China and have the advantage of a large land mass and economic volume. In contrast, countries situated to the east and west of China have less potential for DCEP adoption, with DFI values of less than 30.

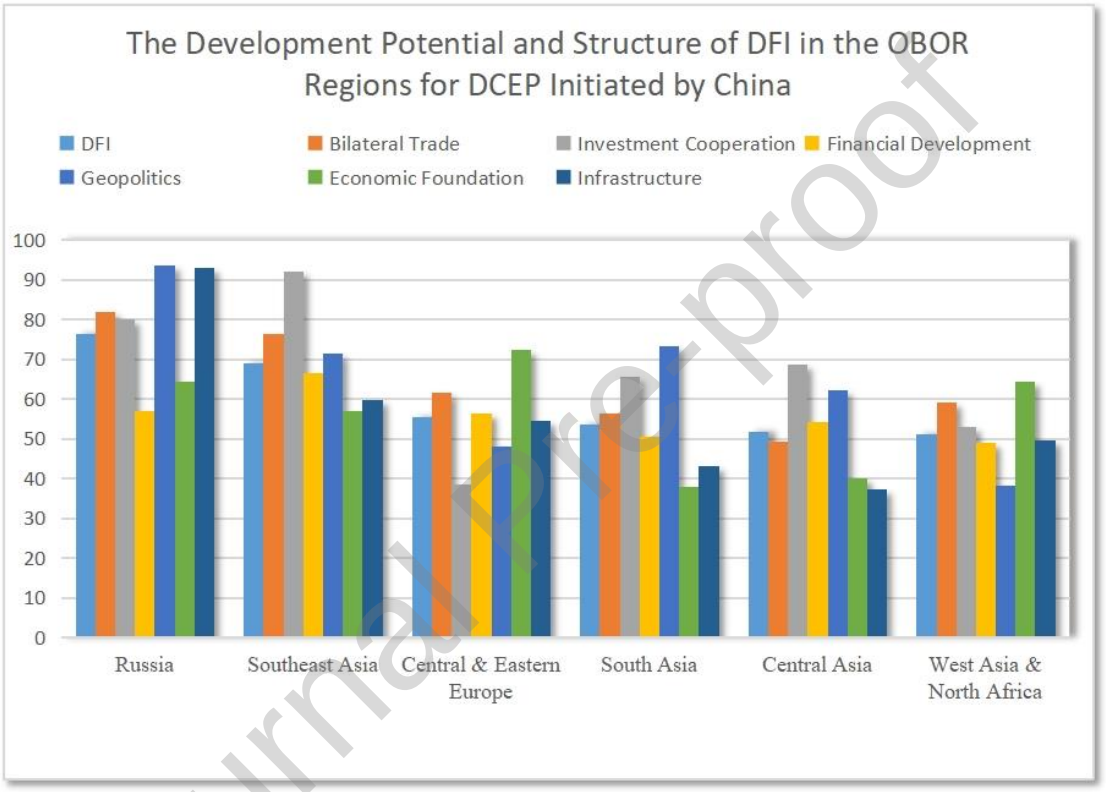


Figure 3. The development potential of DFI in OBOR countries for China's DCEP

Figure 3 shows the groupings of OBOR countries according to geographical regions. We perform a weighted average process to analyse the differences in the potential of each region to adopt DCEP. Russia, with an average DFI value of 76.25, is the most likely to apply DCEP among the six regions if we consider it as a separate region. Southeast Asia follows in second place with an average DFI value of 69.07. Central and Eastern Europe are in third place, followed by South Asia, Central Asia and West Asia and North Africa. Russia has very high scores of 93.48 and 93.02 on the first-level DFI factors of geopolitical and infrastructure fit, respectively, and a score higher than 80 on the secondary indicators of trade relationship and investment cooperation fit. However, the country's level of financial development fit is 56.92,

which means that its DCEP potential is low. Southeast Asia is the most balanced region in terms of all six first-level DFI factors. Its lowest scores are on economic foundation and infrastructure fit, 57.53 and 59.69, respectively, with obvious limitations in these two dimensions. The main limitation in Central and Eastern Europe is the low degree of investment fit. South Asia has low scores on economic foundation and infrastructure fit, while West Asia and North Africa have low scores on financial development and geopolitics.

Figure 4. DFI decomposition chart of the top 10 OBOR countries in DCEP

Figure 4 shows the distribution on the first-level DFI indicators of the top 10 OBOR countries: Malaysia, Singapore, Thailand, Indonesia, Russia, United Arab Emirates, Vietnam, Turkey, Poland and Kazakhstan.

Malaysia ranks first with the most balanced distribution on all sub-indicators among the top 10. Its investment fit is 100, indicating that it may benefit the most from participating in the DCEP system via investment cooperation with China. However, its fit on infrastructure and geopolitics is low, with scores of 72.09 and 73.91, respectively, indicating that the country may lack the supporting conditions to apply DCEP.

Singapore ranks second with a very low financial fit of 60, meaning that the application of DCEP in Singapore will provide the country with fewer financial benefits. The country may also lack a strong motivation to improve its level of financial development by applying DCEP.

Thailand ranks third, with shortcomings in the economic foundation (55.56) and infrastructure (65.12) indicators. The other four items all receive scores above 80, with investment cooperation at a high level of 97.14, indicating that the country has motivation to apply DCEP.

Russia ranks fourth and, like Singapore, has a low fit on the financial development indicator. Furthermore, Russia and China are not well aligned in terms of their economic foundations.

The United Arab Emirates ranks fifth and performs well in all sub-categories. However, its low fit on geopolitical relationship with China (41.30) affects the overall fit.

Indonesia ranks sixth, with high scores on trade relations, investment cooperation and financial development as the three driving factors for applying DCEP. This indicates that Indonesia has the potential to benefit from participating in the DCEP system. Although the country has a strong motivation to accept DCEP, it has low fit scores on the supporting conditions of economic foundation (66.67) and infrastructure (58.14), which signifies that the cost of applying DCEP in Indonesia could be substantial.

Vietnam ranks seventh, with high fit scores on investment cooperation (100), trade cooperation (88) and level of financial development (70.77). However, its low score of 46.67 on economic foundation signifies a substantial cost of applying DCEP.

Turkey ranks eighth, with a low score on infrastructure (58.14). Poland ranks ninth, with low scores on investment cooperation (57.14) and financial development

fit (55.38). Czechia ranks tenth, with low scores on investment cooperation (48.57) and infrastructure (51.16).

5. Conclusion, contributions and policy implications

This study explores whether and to what extent OBOR countries can participate in China's DCEP system. After analysing the driving forces and supporting factors of DCEP application, we build a systematic DCEP fit index and calculates this index for 52 OBOR countries. The results indicate the possibility of cooperation of the OBOR countries with China in DCEP.

This study makes two main theoretical contributions. First, it contributes to the current understanding of CBDCs and DCEP by examining whether China's DCEP can be accepted and applied in OBOR countries. There are three driving factors of DCEP application: bilateral trade, investment cooperation and level of financial development. Additionally, there are three supporting conditions that act as secondary factors for DCEP application: geopolitics, economic foundation and infrastructure. Second, the study builds a systematic DFI of DCEP and measures the fit between OBOR countries and China. Based on the DFI scores, we identify 10 countries that have the strongest driving factors and supporting conditions and would be most likely to adopt the DCEP system.

Based on the results of this study, we propose two policy measures for both the Chinese government and the governments of OBOR countries. First, before participating in an international DCEP system, it is important to quantitatively evaluate the potential fit between the cooperating countries, which may facilitate the effective application of DCEP. The better the fit, the greater the mutual benefits derived by both countries in cooperation. Second, the driving factors should be given more priority than the supporting conditions, as the former signify future potential while the latter can be improved gradually. Additionally, among the supporting factors, countries with high geopolitical fit should be prioritised as geopolitical fit imposes more restrictions than other factors.

This study also has several limitations, which provide directions for future research. First, the study adopts the expert scoring method. Although the experts' backgrounds cover a wide range of related fields, most of them are from China, the origins of the experts are relatively single due to a lack of generalisable experience. This may lead to bias in the weight setting. Therefore, future studies can employ experts from diverse fields and different countries to improve upon the limitations of the current index design. Second, the study uses cross-sectional data for quantification

of the index, which reflects the current status of the OBOR countries in DCEP participation. However, it may not show the changes in these countries' relations with China in adopting DCEP. Therefore, future research could evaluate a time-series calculation of the DCEP fit index.

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References:

Agur, I., Ari, A., & Dell'Ariccia, G. (2022). Designing central bank digital currencies. Journal of Monetary Economics, 125, 62-79.

Auer, R. Böhme, R., 2020. The technology of retail central bank digital currency. BIS Quarterly Review, March.

Bar-Ilan, A. Borodko, I., 2019. Foreign direct investment and the correlation between cost and revenue. Review of International Economics. 27 (4), 1252-67. https://doi.org/10.1111/roie.12425.

Barontini, C. Holden, H., 2019. Proceeding with caution-a survey on central bank digital currency. Proceeding with Caution-A Survey on Central Bank Digital Currency (January 8, 2019). BIS Paper.

Bech, M. L., Faruqui, U., & Shirakami, T. (2020). Payments without borders. BIS Quarterly Review, March.

Bindseil, U., 2019. Central Bank Digital Currency: Financial System Implications and Control. International Journal of Political Economy. 48 (4), 303-35. https://doi.org/10.1080/08911916.2019.1693160.

Chang, L., Junjie, C. Chuankuai, P., 2021. One belt, one road perspective and difficulties in the internationalization of RMB (in Chinese). China Storage & Transport. (10), 89-91. https://doi.org/10.16301/j.cnki.cn12-1204/f.2021.10.035.

Chorzempa, Martin. "China, the United States, and Central Bank Digital Currencies: How Important Is It to Be First?" China Economic Journal 14.1 (2021): 102-15. Web.

Cong, G., Benfu, L. Ying, L., 2021. The Impact of U.S. Unlimited Quantitative Easing Monetary Policy on Cryptocurrency and Digital RMB (in Chinese). China Business and Market. 35 (09), 117-28. https://doi.org/10.14089/j.cnki.cn11-3664/f.2021.09.012.

Cukierman, A., 2020. Reflections on welfare and political economy aspects of a central bank digital currency. Manchester School. 88, 114-25. https://doi.org/10.1111/manc.12333.

Darban, S., Tehrani, H. G., Karballaeezadeh, N. Mosavi, A., 2021. Application of Analytical Hierarchy Process for Structural Health Monitoring and Prioritizing Concrete Bridges in Iran. Applied Sciences-Basel. 11 (17). https://doi.org/10.3390/app11178060.

Devriese, J. Mitchell, J., 2006. Liquidity risk in securities settlement. JOURNAL OF BANKING & FINANCE. 30 (6), 1807-34. https://doi.org/10.1016/j.jbankfin.2005.09.008.

Elsayed, A. H. & Nasir, M. A.2022, Central bank digital currencies: An agenda for future research, Research in International Business and Finance, Volume 62, 101736. https://doi.org/10.1016/j.ribaf.2022.101736.

Fu, X. M., Chen, H. X. Xue, Z. K., 2018. Construction of the Belt and Road Trade Cooperation

Network from the Multi-Distances Perspective. Sustainability. 10 (5). https://doi.org/10.3390/su10051439.

Ghossein, T., Hoekman, B. Shingal, A., 2021. Public Procurement, Regional Integration, and the Belt and Road Initiative. World Bank Research Observer. 36 (2), 131-63. https://doi.org/10.1093/wbro/Ikab004.

Goodell, J W., Shen, D., 2021. The Chinese sovereign digital currency as a catalyst for change: A new trilemma? Understanding cryptocurrency fraud: The challenges and headwinds to regulate digital currencies. 177 (2). https://doi.org/10.1515/9783110718485

Jing, Z., Jinli, C. Yizhuo, L., 2021. Opportunities, Challenges and Measures of RMB Internationalization under the Condition of Signing the RCEP（in Chinese）. Intertrade. (06), 89-96. https://doi.org/10.14114/j.cnki.itrade.2021.06.012.

Jun, J. Yeo, E., 2021. Central bank digital currency, loan supply, and bank failure risk: a microeconomic approach. Financial Innovation. 7 (1). https://doi.org/10.1186/s40854-021-00296-4.

Khajeddin, S., Matinkhah, S. Jafari, Z., 2019. A drought resistance index to select drought resistant plant species based on leaf water potential measurements. Journal of Arid Land. 11 (4), 623-35. https://doi.org/10.1007/s40333-019-0024-7.

Khiaonarong, T., & Humphrey, D. (2019). Cash use across countries and the demand for central bank digital currency. Journal of Payments Strategy & Systems, 13(1), 32-46.

Koo, T., Halpern, N., Papatheodorou, A., Graham, A. Arvanitis, P., 2016. Air transport liberalization and airport dependency: developing a composite index. Journal of Transport Geography. 50 (S.I.), 83-93. https://doi.org/10.1016/j.jtrangeo.2015.04.006.

Kshetri, N., 2021. The Economics of Central Bank Digital Currency. COMPUTER. 54 (6), 53-8. https://doi.org/10.1109/MC.2021.3070091.

Kshetri, N., 2021. Blockchain and sustainable supply chain management in developing countries. International Journal of Information Management, Volume 60. 102376. https://doi.org/10.1016/j.ijinfomgt.2021.102376

Laboure, M., Muller, M., Heinz, G., Singh, S. Kohling, S., 2021. Cryptocurrencies and CBDC: The Route Ahead. Global Policy. 12 (5), 663-76. https://doi.org/10.1111/1758-5899.13017.

Lee, D. K. C., Yan, L., & Wang, Y., 2021. A global perspective on central bank digital currency. China Economic Journal, 14 (1), 52-66.

Lu, Y., Gu, W. Zeng, K., 2021. Does the Belt and Road Initiative Promote Bilateral Political Relations? China & World Economy. 29 (5), 57-83. https://doi.org/10.1111/cwe.12387.

Mancini-Griffoli, T., Peria, M. S. M., Agur, I., Ari, A., Kiff, J., Popescu, A., & Rochon, C., 2018. Casting light on central bank digital currency. IMF staff discussion note, 8(18), 1-39.

Michael A. Peters, Benjamin Green & Haiyang (Melissa) Yang (2022) Cryptocurrencies, China's sovereign digital currency (DCEP) and the US dollar system, Educational Philosophy and Theory, 54:11, 1713-1719, DOI: 10.1080/00131857.2020.1801146

Mohsin, M., Taghizadeh-Hesary, F., Panthamit, N., Anwar, S., Abbas, Q. Xuan, V. V., 2021. Developing Low Carbon Finance Index: Evidence From Developed and Developing Economies. Finance Research Letters. 43 (101520). https://doi.org/10.1016/j.frl.2020.101520.

Morgan, P., 2019. Can China's Economic Statecraft Win Soft Power in Africa? Unpacking Trade, Investment and Aid. Journal of Chinese Political Science. 24 (3), 387-409. https://doi.org/10.1007/s11366-018-09592-w.

Qian, Y., 2018. A systematic framework to understand central bank digital currency. Science China.

Information Science. 61 (3), 33101.

Qian, Y., 2019. Central Bank Digital Currency: optimization of the currency system and its issuance design. China Economic Journal. 12 (1), 1-15. https://doi.org/10.1080/17538963.2018.1560526.

Rohde, L., Larsen, T. S., Jensen, R. L., Larsen, O. K., Jonsson, K. T. Loukou, E., 2020. Determining indoor environmental criteria weights through expert panels and surveys. BUILDING RESEARCH AND INFORMATION. 48 (4), 415-28. https://doi.org/10.1080/09613218.2019.1655630.

Shiboski, C. H., Shiboski, S. C., Seror, R., Criswell, L. A., Labetoulle, M., Lietman, T. M., Rasmussen, A., Scofield, H., Vitali, C., Bowman, S. J., Mariette, X. Int, S. S. C., 2017. 2016 American College of Rheumatology/European League Against Rheumatism classification criteria for primary Sjogren's syndrome A consensus and data-driven methodology involving three international patient cohorts. Annals of the Rheumatic Diseases. 76 (1), 9-16. https://doi.org/10.1136/annrheumdis-2016-210571.

Tsai, W., Zhao, Z., Zhang, C., Yu, L., Deng, E. IEEE 2018, A Multi-Chain Model for CBDC, in 2018 5th International Conference on Dependable Systems and Their Applications (DSA), 25-34.

Wei, L., 2021. RMB Internationalization: Current Situation, Problems and Measures (in Chinese). Asia-pacific Economic Review. (05), 32-6. https://doi.org/Asia-pacific Economic Review.

Weimer, D. L., Saliba, D., Ladd, H., Shi, Y. X. Mukamel, D. B., 2019. Using contingent valuation to develop consumer-based weights for health quality report cards. Health Services research. 54 (4), 947-56. https://doi.org/10.1111/1475-6773.13155.

Wu, T. Chen, J., 2021. A study of the economic impact of Central Bank Digital Currency under global competition. CHINA ECONOMIC JOURNAL. 14 (1), 78-101. https://doi.org/10.1080/17538963.2020.1870282.

Yi, Z., 2021. Research on the Path of RMB Internationalization Steadily Promoted in the Post-epidemic Era (in Chinese). Theoretical Investigation. (05), 113-8. https://doi.org/DOI:10.16354/j.cnki.23-1013/d.2021.05.016.

Yin, X. Xu, Z., 2022. An empirical analysis of the coupling and coordinative development of China's green finance and economic growth. RESOURCES POLICY. 75 (102476). https://doi.org/10.1016/j.resourpol.2021.102476.

Yudong, Q., Huanhuan, L. Xu, X., 2021. The Reform of the International Monetary System and The Opportunity of RMB Internationalization Under The Trend of Digital Currency (in Chinese). Wuhan University Journal(Philosophy & Social Science). 74 (05), 105-18.

Zeng, Y., 2021. Research on compliance supervision of digital RMB innovation (in Chinese). Jiang-huai Tribune. (06), 126-33. https://doi.org/10.16064/j.cnki.cn34-1003/g0.2021.06.018.

Zhang, M. He, F., 2009. China's Sovereign Wealth Fund: Weakness and Challenges. China & World Economy. 17 (1), 101-16. https://doi.org/10.1111/j.1749-124X.2009.01133.x.

Appendix 1: List of Global Central Bank Digital Currencies (Updated to June 2022)

COUNTRY	STAGE	TECHNOLOGY	PROJECT	REMAKE	TYPE
Thailand	Proof of concept	N/A	Inthanon	NA	Retail
Tunisia	Experimental	DLT	E-dinar	Alternative payment options are available.	Wholesale
Sweden	Pilot	DLT	e-Krona	Pilot stage 2; January 2021–February 2022.	Retail
China	Pilot	Hybrid-DLT	DC/EP	By 30 June 2021, there were more than 1.32 million DCEP pilot scenarios, with 20.87 million personal and 3.51 million public accounts opened. In 2022, six new pilot cities/regions were added: Tianjin, Chongqing, Guangzhou, Fuzhou, Xiamen and Zhejiang province.	Retail
Bahamas	Launched	DLT	Sand dollar	N.A.	Retail
ECCU	Launched	DLT	D-cash	The updated version of DCash was published officially on 31 March 2022.	Retail
Singapore	Pilot	DLT	Ubin	Pilot stage 5; July 2020.	Wholesale
Ukraine	Pilot	DLT	E-hryvnia	The Ukraine government supported the pilot scheme. Consequently, the digital currency will be used to pay government employees. In December 2021, it was announced that Bitt Co. and Ukraine Commercial Bank will develop and test the digital currency with technology development by SDF.	Retail
Uruguay	Pilot	Non-DLT	e-Peso	Not certain if it will be launched, trying to improve recession.	Retail
Japan	Proof of concept	N/A	Digital Yen	There is no plan to issue CBDC. It will be considered in future.	Retail
Euro Area	Experimental	Non-DLT, Hybrid-DLT, DLT	Digital Euro	The digital euro currency project entered the investigation stage in July 2021.	Retail
Canada	Pilot	DLT	Jasper	Pilot stage 4; May 2019.	Wholesale
South Korea	Pilot	DLT	E-Won	Finished the first pilot stage.	Retail
Norway	Proof of concept	N/A	N/A	Considering issue of a CBDC	N/A
U.S.	Proof of concept	N/A	N/A	The Biden government signed an administrative order on digital assets, which is deemed as U.S. government support to its central bank on R&D for CBDC.	N/A
U.K.	Proof of concept	N/A	N/A	The financial department and central bank have established action groups to promote CBDC.	N/A
Switzerland + BIS	Proof of concept	DLT	Helvetia	Joint research on CBDC with 6 central banks.	Wholesale
UAE + Saudi Arabia	Pilot	DLT	Aber	Pilot stage 3 in 2022.	Wholesale
Turkey	Proof of concept	DLT	Digital Lira	The central bank announced a	Retail

				pilot cooperation relationship with Aselsan, Havelsa and national information security centre Tubitak Bilgem. It announced that the pilot scheme will start in 2022.	
Rwanda	Proof of concept	N/A	N/A	Issuing digital currency to improve transaction efficiency and economic growth.	N/A
Russia	Pilot	Hybrid-DLT	Digital Ruble	The project cannot be launched immediately, but will consider issuing digital currency.	Retail
Marshall Islands	Launched	N/A	SOV	Managed and operated by an independent non-profit organisation.	Retail
Venezuela	Launched	N/A	Petro	The purpose is to alleviate inflation, and the digital currency, petro, can be purchased using U.S. dollars and Bitcoin. A single petro is priced at 60 U.S. dollars.	Retail
Senegal	Launched	N/A	E-CFA	N/A	N/A
Ecuador	Failed	Non-DLT	E-Dinero	Insufficient usage.	Retail
Uruguay	Failed	Non-DLT	E-peso	Insufficient usage.	Retail
Lithuania	Pilot	DLT	LBCoin	N/A	N/A
Cambodia	Pilot	N/A	Bakong	By January 2022, the platform covered half of the country's population and linked 11 national commercial banks and payment institutions.	Retail
Jamaica	Launched	Non-DLT	Jam DEX	The central bank announced the launching of JamDex and officially acknowledged its legal efficiency.	Retail
Nigeria	Launched	DLT	E-Naira	It was launched officially in October 2021.	Retail
South Africa	Pilot	DLT	Khokha	Pilot stage 2 from 2021 to 2022.	Wholesale

Note: 1. The data and information are from the IMF database, government working reports and related national official webpages, including cbdctracker.org and kiffmeister.blogspot.com.

2. BFT = byzantine fault tolerance; DLT = distributed ledger technology; N/A = not available.

Appendix 2: Variable Standardisation Methods

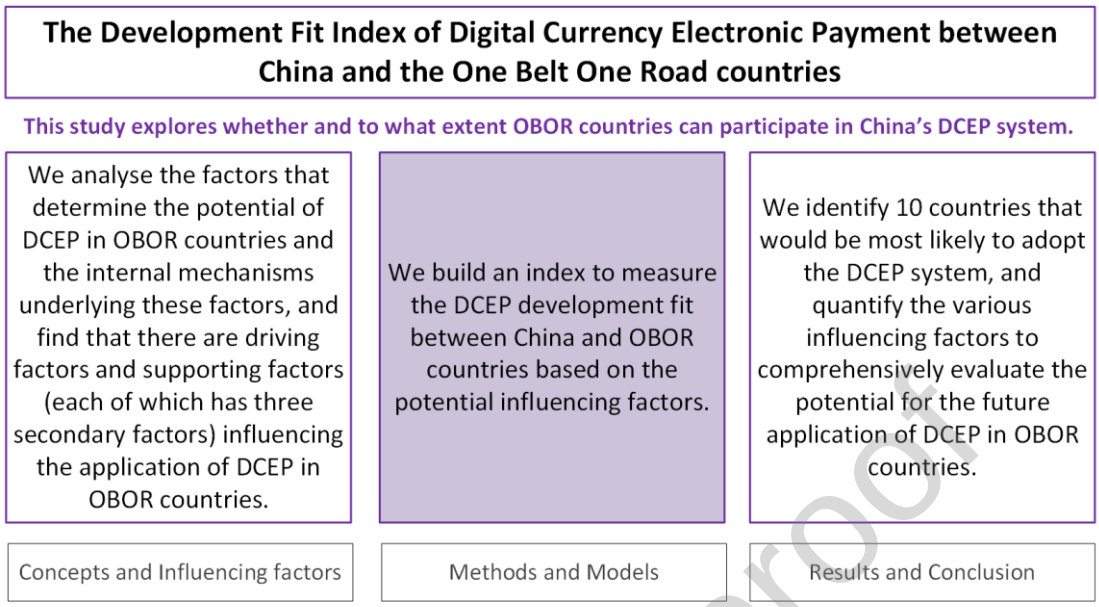
We standardise the index score in table 1 at 5 points by sorting and categorising the samples by the score into quintiles of 0%–20%, 20%–40%, 40%–60%, 60%–80% and 80%–100%, which are assigned 1–5 points. We normalise the quintiles of the proxy variables whose values are marked with * in the column, and sort the proxy variables from large to small. A score of 5 is assigned to a country ranked 1-13. A score of 4 is assigned to a country ranked 14–26. A score of 3 is assigned to a country ranked 27–39. A score of 2 is assigned to a country ranked 40–52. A score of 1 is assigned to a country ranked 53–65. Every quintile standardisation is performed on each proxy variable whose value is marked with ! in the index score column; that is, the proxy variable values are sorted from smallest to largest, and the scoring method is consistent with same-direction quintile normalisation. We then apply same-direction normalisation into two

groups on each proxy variable marked with # in the index score column. The indicator score of the country whose proxy variable is greater than 0 is assigned a value of 3–5 (The specific assigned score is shown in table 1). The indicator score of the country whose proxy variable value is 0 or missing is assigned a value of 0.

Appendix 3: Sample OBOR Countries in the Analysis of DCEP DFI

Country Name	Code	Region	Country Name	Code	Region	Country Name	Code	Region
Malaysia	MYS	Southeast Asia	Belarus	BLR	Central and Eastern Europe	Estonia	EST	Central and Eastern Europe
Singapore	SGP	Southeast Asia	India	IND	South Asia	Jordan	JOR	West Asia and North Africa
Thailand	THA	Southeast Asia	Serbia	SRB	Central and Eastern Europe	Armenia	ARM	West Asia and North Africa
Indonesia	IDN	Southeast Asia	Romania	ROU	Central and Eastern Europe	Georgia	GEO	West Asia and North Africa
Russia	RUS	Russia	Ukraine	UKR	Central and Eastern Europe	Bahrain	BHR	West Asia and North Africa
United Arab Emirates	ARE	West Asia and North Africa	Bulgaria	BGR	Central and Eastern Europe	Latvia	LVA	Central and Eastern Europe
Vietnam	VNM	Southeast Asia	Sri Lanka	LKA	South Asia	Lebanon	LBN	West Asia and North Africa
Turkey	TUR	West Asia and North Africa	The Philippines	PHL	Southeast Asia	North Macedonia	MKD	Central and Eastern Europe
Poland	POL	Central and Eastern Europe	Lao People's Democratic Republic	LAO	Southeast Asia	Tajikistan	TJK	Central Asia
Kazakhstan	KAZ	Central Asia	Myanmar	MMR	Southeast Asia	Bosnia and Herzegovina	BIH	Central and Eastern Europe
Hungary	HUN	Central and Eastern Europe	Kuwait	KWT	West Asia and North Africa	Nepal	NPL	South Asia
Czechia	CZE	Central and Eastern Europe	Uzbekistan	UZB	Central Asia	Afghanistan	AFG	South Asia
Israel	ISR	West Asia and North Africa	Lithuania	LTU	Central and Eastern Europe	Azerbaijan	AZE	West Asia and North Africa
Saudi Arabia	SAU	West Asia and North Africa	Bangladesh	BGD	South Asia	Moldova	MDA	Central and Eastern Europe
Pakistan	PAK	South Asia	Kyrgyzstan	KGZ	Central Asia	Syria	SYR	West Asia and North Africa
Qatar	QAT	West Asia and North Africa	Croatia	HRV	Central and Eastern Europe	Yemen	YEM	West Asia and North Africa
Egypt	EGY	West Asia and North Africa	Albania	ALB	Central and Eastern Europe	Oman	OMN	West Asia and North Africa
Cambodia	KHM	Southeast Asia						

Graphical abstract



Declaration of interests

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

☐The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Highlights

- The development fit of DCEP between China and OBOR countries is determined by driving forces and supporting factors.
- The driving forces factors include bilateral investment, trade and financial development.
- The supporting factors include geopolitics, economic foundation and infrastructure.
- The study ranks 52 OBOR countries according to their fit with China in participating in the DCEP system initiated by China.