



INDEPENDENT DECENTRALIZED FINANCE ECOSYSTEM – INDEFIECO PROTOCOL

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This document provides a summary of a decentralized (DeFi) smart-contract bank protocol, allowing holders of digital rights to benefit from the entire range of traditional fiat services, while maximizing their profit from cryptocurrency assets, with the level of reliability guaranteed by smart-contracts.

The paper is intended for confident users who are familiar with the general blockchain vocabulary, technical terms and definitions used to describe and to formalize DeFi protocols.

The text can be updated and modified subject to legislative changes, evolution of existing technologies, and new mechanics to appear. This article is based on the study and analysis of existing blockchain and decentralized finance protocols, as well as on the practical experience of their creation and use.

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1. Introduction

The DeFi market showed an explosive growth in 2020. Billions of dollars were invested in protocols and mechanisms which not only allowed holders of cryptocurrency assets to earn passive interest on their capital, but also generated absolutely new entities, heretofore unknown to the market, which were instantaneously appreciated by the cryptocommunity and triggered in some cases a thousand-fold rise in value of the newly created projects and assets. Never before has the cryptocurrency and token operating as part of complex smart-contracts been so important for the entire infrastructure. Today, all crucial discoveries and endeavors are aimed at ensuring most cost-effective and efficient interactions between holders of crypto assets, whether as part of crypto currency exchanges, lending, insurance, Yield Farming, asset management, or creation of derivatives. However, DeFi projects are often subjected to just criticism, based on doubts about true decentralization, protocol-related risks, resemblance of some tokens' growth models to the pyramid, apparent inefficiency of most projects proposed, being in essence "a thing in itself" and bringing no practical benefit from their existence to a wide range of cryptoindustry players, whose number amounts today to at least 100 million people worldwide, according to most prudent estimates.

Traditional financial institutions reveal not lesser deficiencies – among them, fiat banks which have turned into "anti-banks", with their purpose consisting in being co-involved in the embezzlement of others' assets and labor products, instead of caring for their customers' interests. Together with some investment funds, legal and audit firms, they form an infrastructure to service the "dirty money". The system is destroying the financial environment exactly in the same way, as the reckless industry is destroying the nature, pushing the planet toward a climatic disaster.

In order to overcome these critical points, on the one side, and to create the necessary bridges between traditional financial institutions and cryptocurrency assets, on the other side, we are attempting today to create an independent decentralized finance ecosystem – Bank 2.0, to operate exclusively in the virtual environment of strict mathematical rules determined in smart-contracts, and, at the same time, to provide benefits to the world around not only by facilitating access to financial services, but also by sanating the international financial environment and recovering its function of the economy's "lifeblood", contributing not only to the progress of the human civilization, but also to the resolution of current ecological issues of the world of money and capital. In particular, the InDeFiEco sets two priority goals in the decentralized finance industry – to dramatically reduce transaction costs, and to increase the reliability and usefulness of asset placement, which is achieved using traditional real-world methods transferred into the digital ecosystem, in particular by creating high-performance gateways and bridges into traditional fiat systems.

2. InDeFiEco operating principles

2.1. The operation is based on a managing smart contract, which determines the parameters of interaction between all members of the ecosystem, being beneficiaries at the same time. It is responsible for all processes inside the 2.0 bank, in particular, by managing any third party decision in connection with the ecosystem.

Any liquidity provider wishing to make their cryptocurrency assets available for income generation purposes, interacts directly with the underlying systemic smart contract, and receives a fixed or floating interest (as stipulated in the contract) for the use of their funds, or any other assets, and a possibility to participate in the allocation of project management tokens.

2.2. Main operations for holders of cryptocurrency assets include:

2.2.1 Issuance of cryptocurrency loans against pledge of cryptoassets (closest comparables are Compound, Aave)

2.2.2 Acceptance of cryptocurrency assets against a fixed interest (closest comparables are Nexo, Circle)

2.2.3 Acceptance of cryptocurrency loans for fixing in high-yield engines (Maker DAO, wBTC models)

2.2.4 Payment servicing for customers who have no access to traditional fiat institutions (such as poor population of various African countries whom banks are not interested in, but who are active participants of zero-commission settlements; example: Grameen Bank)

2.2.5 Possibility to implement complex pledge and derivative schemes (comparable to Synthetix)

2.2.6 Providing liquidity for accelerated Yield Farming with a high non-fixed profit ratio (comparables are Yearn Finance, DeFireX)

2.3. In addition, InDeFiEco enables its participants to:

2.3.1 Receive liquidity against pledge of project tokens

2.3.2 Sell highly liquid tokens nominated in consistently growing assets, such as gold

2.3.3 Receive a portion of profit for charitable and environmental projects which are in line with the ecosystem's ideology.

3. IDF control tokens.

3.1 The only way to manage the ecosystem and to make decisions is holding and voting by an IDF control token, of which 10 million items have been issued and allocated as follows:

70% is allocated among the ecosystem members

10% - among early private liquidity providers

20 to 30% - at the early liquidity pooling stage (some days after the project start)

30-40% is long-term allocation among regular liquidity providers

The remaining 30% is allocated as follows:

15% is received by the founders

10% - by the project management and team

5% is a reserve.

3.2 Project developers shall have no preference once the tokens distribution has started; instead, they rank pari passu with other ecosystem members.

3.3 In all cases, the majority and shares shall be calculated on the basis of IDF tokens issued and outstanding.

3.4. The InDeFiEco project shall under no circumstances, in no form and on no condition, sell the IDF tokens issued. Tokens are solely distributed by an automatic smart contract, under pre-agreed rules, among all members of the ecosystem, according to their contributions in the project development, assessed using certain algorithms comparable to the Compound project.

3.5 In addition, IDF control tokens are freely traded in the market and, in any case, are accepted by the InDeFiEco project as a collateral for liquidity or pledge provision.

4. Allocation of control tokens.

4.1 Key decisions involving amendment or update of the underlying smart contract are passed by the majority-elected MANAGER (smart contract), provided that such decisions can be cancelled by a majority of control token holders. Any holder or group of holders holding at least 5 percent of control tokens can initiate a vote for changing the MANAGER; the decision may be passed by a simple majority of votes (similar to the election of a bank's Management Board by the general meeting of shareholders).

4.2 Any amendment to the smart contract (other than temporary emergency locking in case of a threatening protocol compromise) shall take effect 48 hours upon network implementation, and can be cancelled by a simple majority of votes within this time interval.

4.3. 10% of control tokens will be allocated among early liquidity providers between December 16 and December 27, 2020.

5. System yield distribution.

5.1 The system's yield, composed of commission fees and operating income, may be distributed as follows, upon decision of a majority of control token holders:

5.1.1. Operating expenses resulting from relations with regulators in various countries

5.1.2. MANAGER's remuneration for efficient utilization of resources

5.1.3. Revenue distribution among control token holders

5.1.4. Redemption of control tokens in the free market, to ensure liquidity and maintain competitive demand

5.1.5. Charity projects involved in the ecosystem

5.2 Should it be decided that a portion of the system's revenue be applied toward market redemption of IDF tokens, their further lifecycle shall be envisaged: either accepting them back into the smart contract for subsequent redistribution, or cancelling.

6. Manager (smart contract)

6.1 Unlike most DeFi projects, where the system is operated and managed either by a team of founders, or decisions are passed by a majority of voting control tokens, the InDeFiEco uses an approach which is similar to the traditional finance world, where the manager (smart contract) undertakes entire liability for decisions made. The manager is elected by a majority of voting tokens and shall meet certain requirements, in particular, have respective competences and regulations required to interact with the real world. Such an approach is due to an extensive scope of functions, which cannot be foreseen and, even more, described in a smart contract; while the centralized management's flexibility is required to achieve most efficient yield rates on customers' assets, as well as complex safety and competency audits of projects proposed.

6.2. In particular, the MANAGER shall have at least one company incorporated in the jurisdiction, to be able to obtain respective licenses from regulatory bodies, required to conduct the entire range of operations with cryptocurrency assets. Although the InDeFiEco is a supranational and non-regulated project in terms of national legislations, every MANAGER will face the task of maximizing the legalization in the ecosystem member countries, which requires obtaining necessary regulatory permits and, eventually, transferring tokenized shares of newly created companies to the system itself, in case the MANAGER changes by a majority of control tokens' votes.

6.3. Any decision made by the MANAGER may be cancelled by a majority of system stakeholders' votes; for this purpose, the underlying smart contract will provide for time (at least 48 hour) lag mechanisms prior to implementing any decision.

7. Limitation of functions and responsibilities.

In **no** form will the InDeFiEco engage in any of the following:

7.1 raising funds from individuals and companies as sight or time deposits;

7.2 disposing of such funds in its own name and at its own cost;

7.3 opening and maintaining bank accounts of individuals and companies;

7.4 transferring money by order of individuals and companies, including correspondent banks, to or from their bank accounts;

7.5 collecting cash, bills, payment and settlement instruments, provide cash servicing to individuals and companies;

7.6 selling and purchasing foreign currency in cash or cashless form;

7.7 raising precious metals from individuals or companies as sight or time deposits, including precious coins;

7.7.1 disposing of such precious metals in its own name and at its own cost;

7.7.2 opening and maintaining bank accounts of individuals and companies in precious metals, including precious coins;

7.7.3 transferring precious metals by order of individuals and companies, including correspondent banks, to or from their bank accounts;

7.8 transferring money without opening bank accounts, including e-money and postal transfers;

7.9 issuing surety for any third party, providing for fulfillment of any obligations in cash;

7.10 acquiring cash receivables from any third parties;

7.11 holding funds and other assets in trust upon agreement with individuals or companies;

7.12 conducting operations with precious metals, precious coins;

7.13 leasing specialized premises or safe boxes located therein, to individuals or companies for safekeeping of documents or valuables;

7.14 leasing operations;

7.15 issuing bank guarantees.

8. Basic safety requirements

8.1 In addition to traditional safety mechanisms, the InDeFiEco's DeFi (contract audit, disclosure of project founders' personalities) will use innovative technologies to protect users' assets. The innovations allow integrating a mechanism of approved auditors' involvement into traditional interaction mechanisms, without materially impairing the decentralization principles.

In existing systems, the loss or compromise of a closed wallet key means in 100% of cases the loss of all funds as a result of malicious acts. Liquidity provided to InDeFiEco will be secured against such impacts using the following mechanism:

8.2. Once a user profile is created, the access will be secured by a google authorization which is not tied to anything and stored directly on client end. Any liquidity contract will contain a configurable scope of time lock functions, according to which, merely having access to the wallet will not lead to immediate execution of the cash-out command. To activate this protocol, one will have to log in and confirm the command by launching an administrative smart contract, which will confirm the cashout, or, on the contrary, lock the

request, and eventually transfer the funds to a pre-agreed backup wallet. In the event of failure to log in upon expiry of the agreed time interval, the cashout transaction will still be executed, which excludes the possibility for the administrative contract to influence the cashout decision in any way on its own.

8.3. Any project requesting liquidity in the InDeFiEco system will undergo complete audit procedure, involving not only the technical component and collateral, but also its background and founders' personalities. The MANAGER may take measures to provide for additional financial collateral beyond DeFi protocols.

8.4. Another DeFi issue, raising ever-bigger questions on the part of regulators, is the impossibility of timely identification and locking the cryptocurrency of dubious or criminal origin, which generates an increasing "laundering" process, such as stolen coins or darkmarket via DeFi mechanics. As InDeFiEco implies close cooperation with regulators, an oracle will be implemented at initial interaction with a crypto asset placement contract, to check the frequency of incoming transactions and prohibit their execution, in case any unacceptable parameter is detected. This will guarantee system users from receiving "dirty" assets, and will prevent any deep internet actors from dealing with systemic smart-contracts.

9. Project's own tokens.

9.1 In order to ensure most profitable and reliable interaction, and to dramatically reduce commission fees, own secured tokens will be issued, based both on Maker DAO, and wBTC principles. Dedicated utility tokens will also be used as project's depository receipts, which do not have free circulation and serve as an evidence of placing cryptoassets of a certain type in the system.

9.2 Of utmost interest is the possibility to maintain the value of current assets (dollars and other currencies) by converting them into a reliable basket consisting of two assets: PAXG – the gold, and DAI – the digital dollar, in an approximately 50/50 proportion. The gold is used in form of PAXG tokens, which are completely transparent and secured by physical gold, based on a reliable infrastructure offered by Paxos. The DAI, decentralized digital dollar, offered by MakerDao – the largest DeFi project, is transparently and decentralizedly secured by ethereum, and is the basis of the entire DeFi market.

Thus, it can be said that the USDG is secured by most reliable and liquid assets, which will allow maintaining the value of current assets in case of any crisis developments in the economy, whose likelihood is now growing dramatically.

The smart contract mechanism for USDG issuance is based on a proven and reliable model and a code base used for DAI issue by MakerDao, with some extra functionalities and parameters, which make the project even more reliable and profitable to users.

USDG tokens are issued with such configurations, that the pledge value is at least double the value of USDG tokens issued, and minimum security ratio is at a level of 90%.

This means that there is no risk of pledge loss even in case of 100% depreciation of a pledged asset.

Thus, the proposed model has unique advantages: namely, it allows gaining certain income of up to 12% p.a. for each placed position (Compound farming, Uniswap etc.) and simultaneously extracting up to 50% of funds placed as a pledge in form of a loan. This results in a certain income of 7 to 12% per annum, while freely using 50% of the amount for 0.5% p.a. only.

In case of gold appreciation, which is most likely now, the value of pledged collateral will grow; the profit can be fixed by extracting and selling the pledge.

All users and liquidity providers will also participate in the distribution of InDeFiEco control tokens, which will allow them to reduce the service commission fee, and to take part in the project management.

10. Reducing transaction costs.

10.1 As part of InDeFiEco, jointly with BSC team, a zero transaction cost solution will be implemented, which is achieved by a high-performance multi-purpose bridge between the Ethereum network and the Binance Smart Chain, which allows its users to gain access to the Compound's liquidity yet now.

10.2 The option is being negotiated, of providing direct access to all Binance users via BSC to best DeFi projects and mechanics, already efficiently operated in the Ethereum network, by developing an infrastructure which has already been implemented by InDeFiEco in partnership with DeFireX and xDAI, and generates substantial profit to liquidity providers even before the project starts.

Implementation of this project will allow tens of millions of Binance customers to gain access to the best public zero-commission financial instruments.

11. Summary

The InDeFiEco project will provide services of traditional financial institutions using cryptocurrency project and decentralized finance mechanics. Despite the initial supranationality and off-regulatory mechanisms of interaction with project stakeholders, the manager will enforce strict compliance of every borrower and the pledge provided to the jurisdiction of the country of origin, subject to full compliance with AML/KYC procedures. In addition, the mechanics used and the close interaction with market-tested projects will, unlike traditional institutions, guarantee not only absolute safety of stakeholders' funds, but also higher remuneration for providing liquidity into the project.