DBR Streaming Risk Assessment (Apr ‘23)

The purpose of this document is to identify and assess the potential risks associated with the proposal to begin the issuance of new DBR tokens, with a focus on the minRewardRate, maxRewardRate, and Starting rewardRate parameters. This document aims to provide recommendations on setting these parameters, considerations to be taken into account, and risk mitigation tools or circuit breakers to be implemented alongside the proposal. As a reminder, minRewardRate and maxRewardRate are set by governance and any future change to these parameters would simply require a new proposal and 5-day period.

I. Setting the Parameters

minRewardRate

The minRewardRate represents the minimum reward rate that can be set by the operator. It acts as a lower bound for the distribution of DBR tokens. Setting the rate low could result in a diminishing DBR supply, if current DBR spend > RewardRate, which in turn could result in reduced DBR liquidity and higher cost of borrowing of DOLA. Conversely, setting RewardRate > current DBR spend would lead to an increasing supply of DBR tokens, potentially increasing Liquidity, reducing DBR value, and resulting in a lower cost of borrowing of DOLA. To determine the appropriate RewardRate, it is crucial to analyze historical data on DOLA borrowing and liquidity levels on FiRM, as well as overall DOLA liquidity.

Recommendation: The minRewardRate should be set at 0. This level ensures the operator can act out the most drastic deflationary policy (or net 0 supply growth if DBR spend = 0) in a scenario where it’s in the DAO’s best interest to do so.

maxRewardRate

The maxRewardRate serves as the upper bound for the distribution of DBR tokens. It prevents the operator from setting an excessively high reward rate, which could lead to rapid inflation of the DBR token supply and reduced value of the token, along with several negative consequences that constitute bad risk management including:

- Market Instability: A high maxRewardRate can create uncertainty and volatility in the DBR market, as market participants might struggle to accurately price the tokens. This can lead to sudden price fluctuations and make it more challenging for borrowers to predict their borrowing costs, negatively impacting the user experience and reducing adoption.
- Unsustainable Growth: If the maxRewardRate is set too high, it might incentivize excessive borrowing of DOLA on FiRM, leading to unsustainable growth. This rapid growth may strain the platform's resources and create liquidity issues, which can ultimately destabilize the platform and increase the risk of liquidations or defaults.

- Misaligned Incentives: A high maxRewardRate can result in misaligned incentives for users. Users might prioritize short-term gains from the high rewards rather than supporting the platform's long-term growth and stability. This can contribute to speculative behavior and weaken the overall health of the platform.
- Governance Risks: Setting the maxRewardRate too high can increase the potential for governance-related issues, as stakeholders may disagree on the appropriate rate for the platform's long-term success. This can lead to disputes and conflicts within the community, which can negatively impact the platform's development and growth.

Setting the maxRewardRate too low could constrain the operator's ability to respond to changes in market conditions and limit the growth potential of DOLA borrowing on FiRM until a new proposal to increase it passes through Inverse governance.It is essential therefore to analyze the potential demand for DOLA borrowing and the required DBR token supply to meet that demand, considering various market scenarios whilst also striking a balance

Recommendation: The maxRewardRate should be set to 0.3171, which corresponds to 10m DBR per year rate. This level sets a realistic DOLA borrowing goal for the DAO, and allows for flexibility in adjusting the reward rate according to market conditions while preventing excessive DBR token issuance.

Starting rewardRate

The Starting rewardRate is the initial reward rate set by the operator for DBR token distribution. It determines the initial rate of DBR token issuance and plays a crucial role in balancing the supply and demand for DBR tokens. Setting the Starting rewardRate too low could result in insufficient incentives for INV stakers, marking a bad ‘first impression’ that might be hard to recover from. On the other hand, setting it too high could lead to an excessive supply of DBR tokens, causing inflationary pressure and reducing the token's value excessively. The Starting rewardRate should be set based on an analysis of the current DOLA borrowing levels on FiRM and the anticipated demand for DOLA borrowing. It should be set at a level that provides adequate incentives for INV stakers while maintaining a stable DBR token supply.

Recommendation: The starting RewardRate should be set to 0.1268, which corresponds to 4m DBR per year rate. This rate will bring about a slight inflationary pressure to DBR, whilst adequately incentivizing INV stakers, and FiRM usage by consequence of lower DBR prices.

II. Considerations

Market Dynamics

The minRewardRate, maxRewardRate, and Starting rewardRate should be set considering the market dynamics of DOLA borrowing, DBR token supply, and the demand for DOLA on FiRM. It is essential to analyze the historical trends in these market factors and anticipate potential future developments to make informed decisions on parameter settings.

Inverse Finance's Strategic Goals
The parameters should be aligned with Inverse Finance's strategic goals, such as expanding the DOLA borrowing market, increasing the adoption of FiRM, and ensuring the long-term success of the platform.

Technological Infrastructure
The technological infrastructure supporting the issuance and distribution of DBR tokens should be considered when setting the parameters. This includes the robustness of the underlying smart contracts, the security of the systems involved, and the potential for scaling the infrastructure to accommodate increased demand for DOLA borrowing on FiRM.

Interoperability
Inverse Finance should consider the interoperability of the DBR token issuance and distribution process within the context of bringing FiRM to L2 or alt-L1 chains. Ensuring that the process is compatible can increase the adoption of Inverse Finance and drive the growth of DOLA borrowing on FiRM.

Governance Risks
The decision-making process for adjusting the RewardRate should be transparent and involve input from stakeholders, such as token holders and community members. This ensures that the parameters are set and adjusted based on the collective wisdom and interests of the community, reducing the risk of governance-related issues and conflicts.

Market Manipulation Risks
Market participants may attempt to manipulate the price of DBR tokens or influence the reward rate to their advantage. By carefully monitoring market activities and implementing measures to detect and mitigate market manipulation, Inverse Finance can reduce the risks associated with market manipulation and maintain the integrity of the DBR market.

Regulatory Environment
The regulatory environment for cryptocurrencies and token issuance can have a significant impact on the success of the proposal. It is crucial to consider potential regulatory changes, compliance requirements, and potential restrictions on token issuance when setting the parameters.

III. Risk Mitigation Strategies and Tools

Periodic Review of Parameters
Adjustments to the parameters may be necessary to maintain an efficient DBR market and support the growth of DOLA borrowing on FiRM. The frequency of these reviews should be determined based on the market's volatility and the speed at which the DOLA borrowing market is evolving.

Monitoring and Reporting

A robust monitoring and reporting system should be established to track the performance of the DBR token issuance and distribution process, as well as the impact on DOLA borrowing levels and DBR market liquidity. This system should provide regular updates on key performance indicators, such as the current reward rate, DBR token supply, and DOLA borrowing levels. Monitoring and reporting can help assess current policy and identify any issues early, allowing for timely intervention and adjustments to the parameter.

External Review

External review of the smart contracts and technological infrastructure supporting the DBR token issuance and distribution process can help identify potential security vulnerabilities and ensure the robustness of the system. These reviews should be conducted by reputable third-party organizations with expertise in smart contract security.

Dynamic Adjustment Mechanism

Implementing a dynamic adjustment mechanism that automatically adjusts the parameters based on predefined conditions or market indicators could help maintain an efficient DBR market. This mechanism could consider factors such as DOLA borrowing levels, DBR token supply, and market liquidity when adjusting the parameters. A dynamic adjustment mechanism would reduce the need for manual intervention and provide a more responsive approach to managing the parameters. However this is likely to result in increased smart contract complexity, and should therefore be considered if/when the DAO is looking to further decentralize.

Circuit Breakers

Similarly, circuit breakers can be employed to halt the issuance of DBR tokens (set RewardRate to 0) in extreme market situations, such as rapid price fluctuations, excessive DBR token supply, or severe liquidity issues. These circuit breakers can be triggered based on predefined conditions, such as a sudden increase in the DBR token supply or a sharp decline in DOLA borrowing levels. Implementing circuit breakers can help prevent excessive DBR token issuance and protect the value of the token, but again should only be considered in the eventuality the DAO decides to move away from manual intervention.