Ormi.

The decentralized credit protocol.

Ormi.mission

- Decentralized credit protocol for issuing undercollateralized loans/credit without relying on real world identities.
- Multi-chain, non-custodial, non-KYC, permissionless.

Reduced problem

Securing undercollateralized loan on blockchain essentially reduces to the following:

1. Imagine you setup a bank at a village that you don't know any one's background.
2. There are honest people and there are scammers.
3. How do you begin build reputation for them, so you know who is credit-worthy and who is a scammer.
4. If honest individual can't pay back, or scammer scams you, how does your bank recover.
5. Bottom line: **don't go bankrupt.**

Ormi.problem

- DeFi liquidity/lending protocols (e.g. Aave, Compound, MakerDAO) require 100%+ (often 150%) to secure the loan.
- Capital inefficiency.
- Existing undercollateralized loan projects are **permissioned** (i.e. lending to institution).
- DeFi lacks infrastructure to issue **permissionless** credit.

Ormi. competitors

Undercollateralized	Permissionless	Projects
✗	✓	Aave, Compound, MakerDAO
✓	✗	Maple, Goldfinch, TrueFi
✓	✓	Ormi

Lending system primer

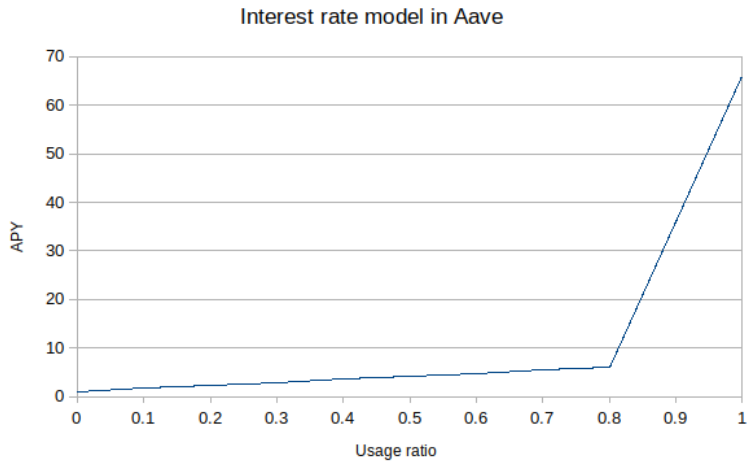
Every lending system has two components:

- How to secure the loan.
- How to provide liquidity.

How does Aave do it?

Every lending system has two components:

- **How to secure the loan:**
  - Overcollateralization
  - If collateral's value falls below loan value, collateral gets liquidated.
- **How to provide liquidity:**
  - Kinked interest rate model
  - Low liquidity/high utilization ratio = high interest rate/APY. Incentivizes users to provide liquidity for yield.



How does Ormi do it?

Every lending system has two components:

- **How to secure the loan:**
  - Protocol based reputation
    - Ormi decentralized identifier (DID) + verifiable credential (VC)
  - Partial collateralization/slashing penalty
  - Debt restructuring
- **How to provide liquidity:**
  - Kinked interest rate.

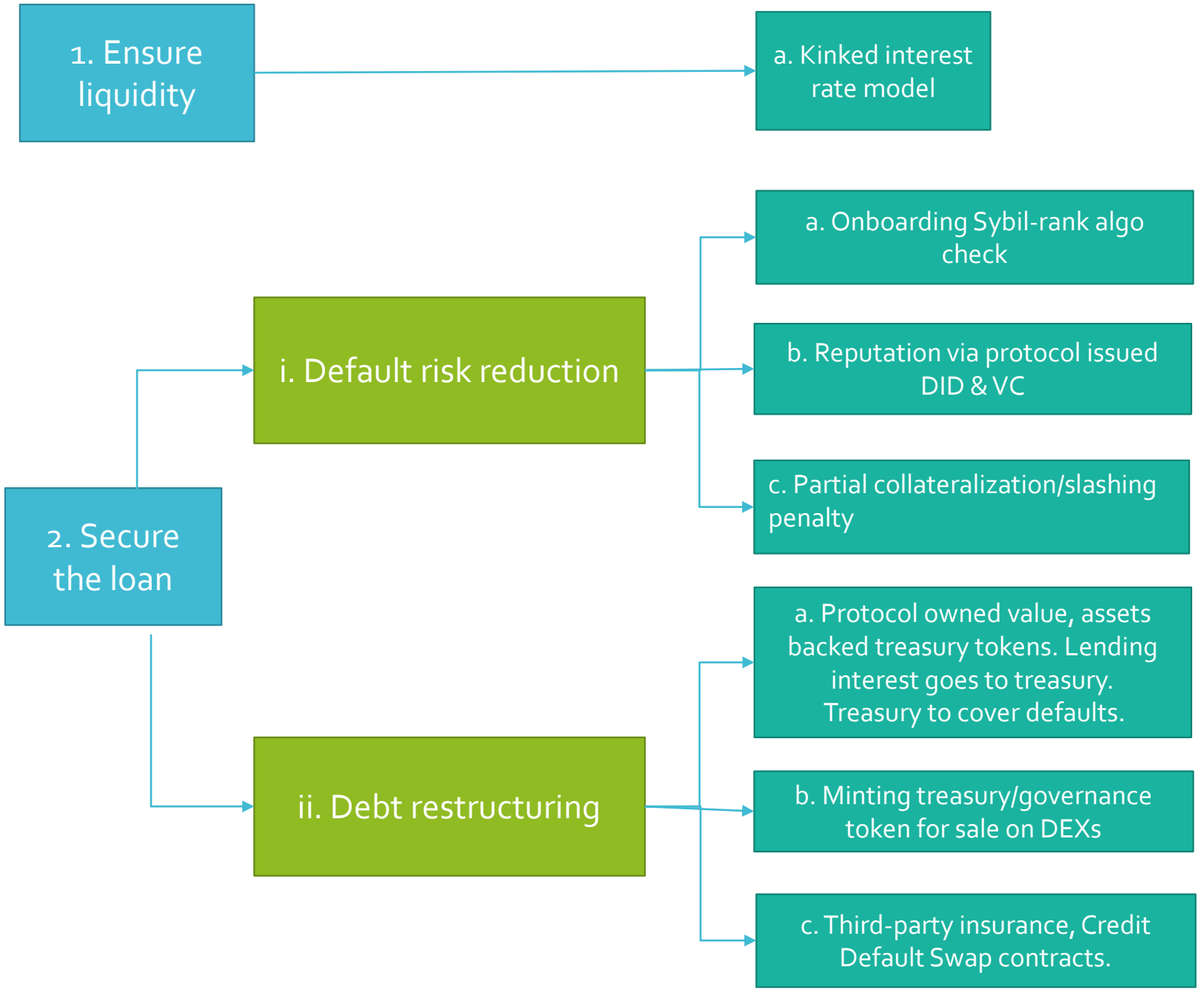
Two key issues for undercollateralized loan

Two key issues every undercollateralized loan system needs to address:

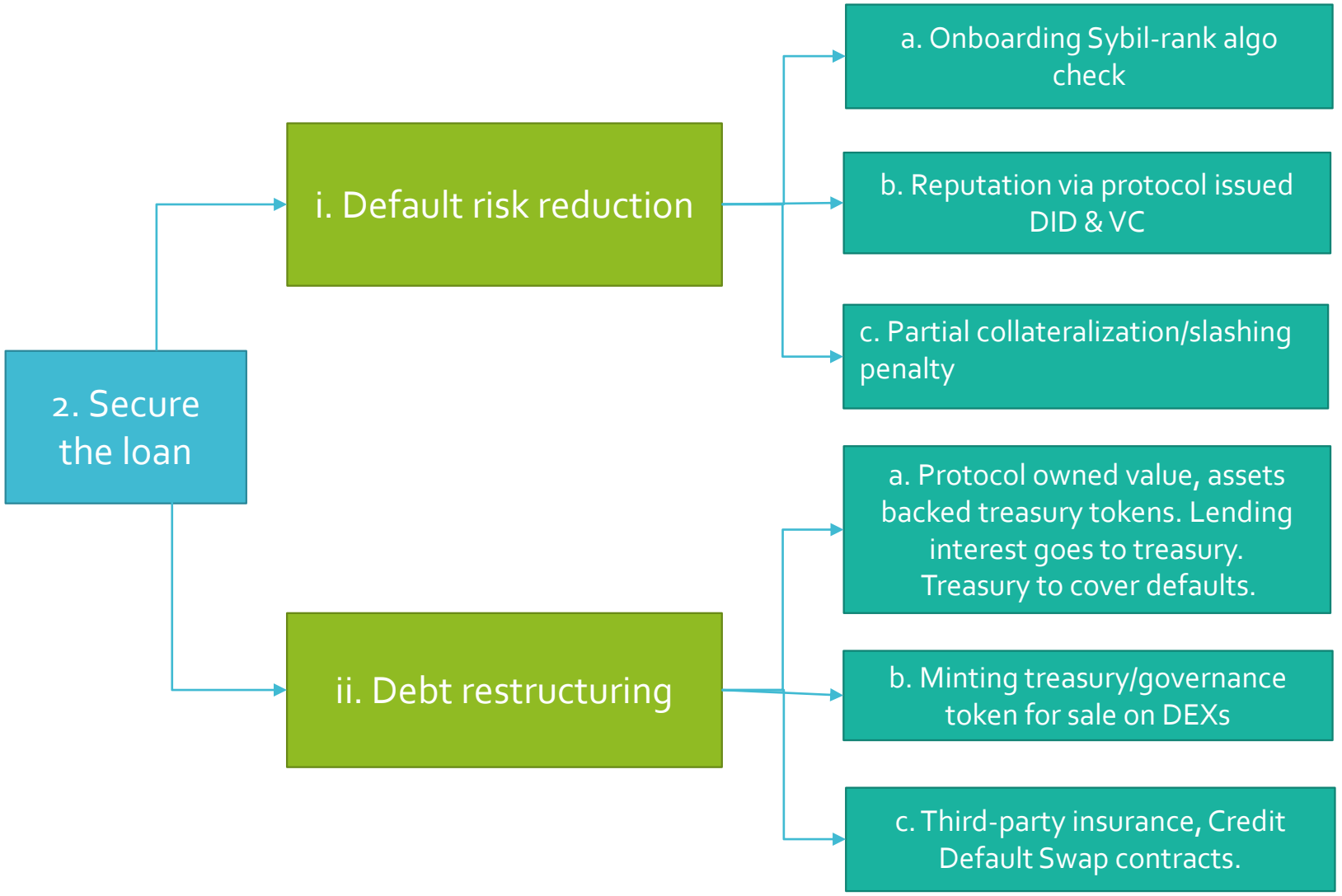
1. Default risk reduction:
    1. Sybil-control: eliminate the scammers
    2. Reputation, credit-worthiness.

2. Debt restructuring
    1. If someone defaults, how do you recover the loss.

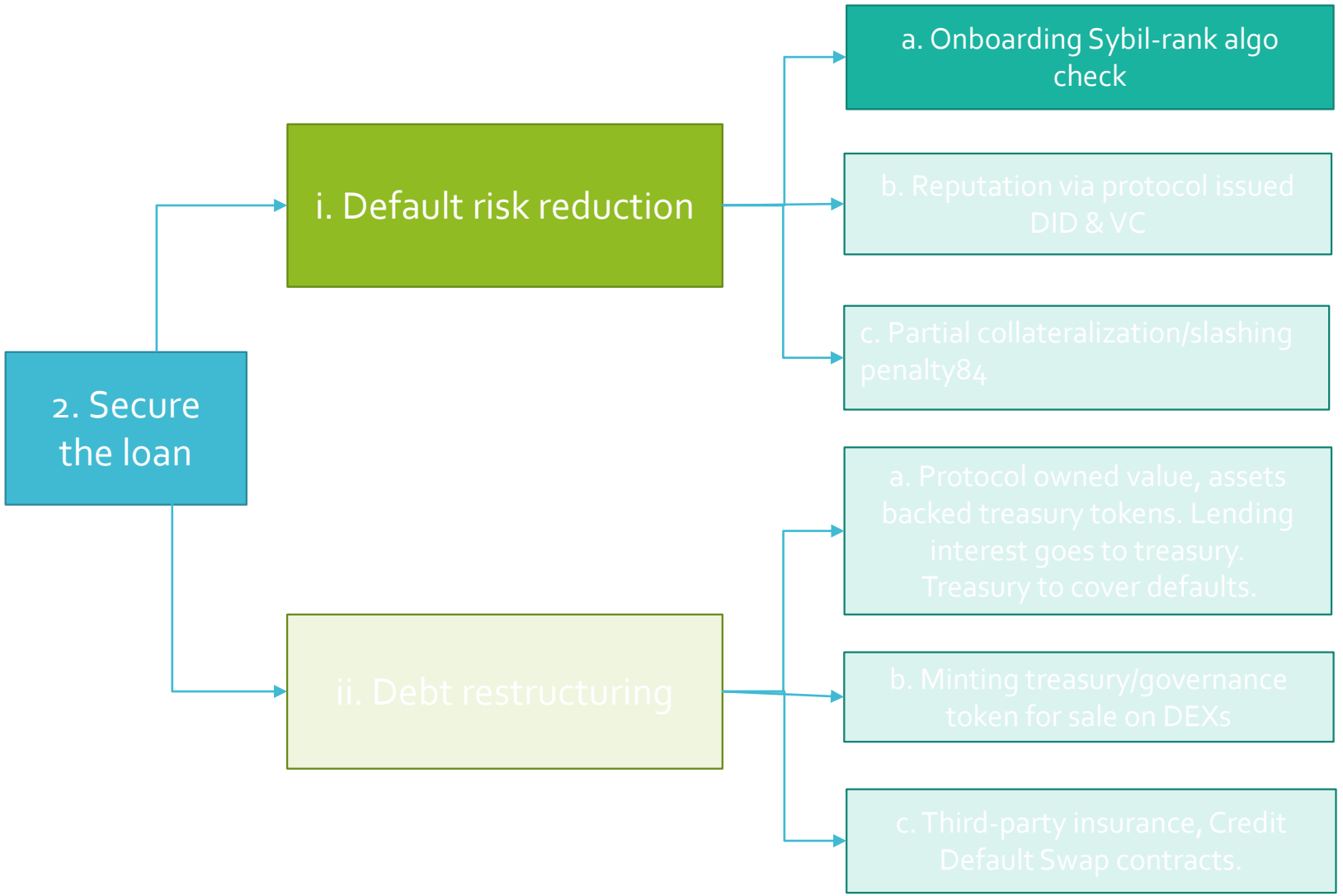
Two key components for undercollateralized loans



Ormi.key innovations



Default risk reduction – Anti-sybil onboarding



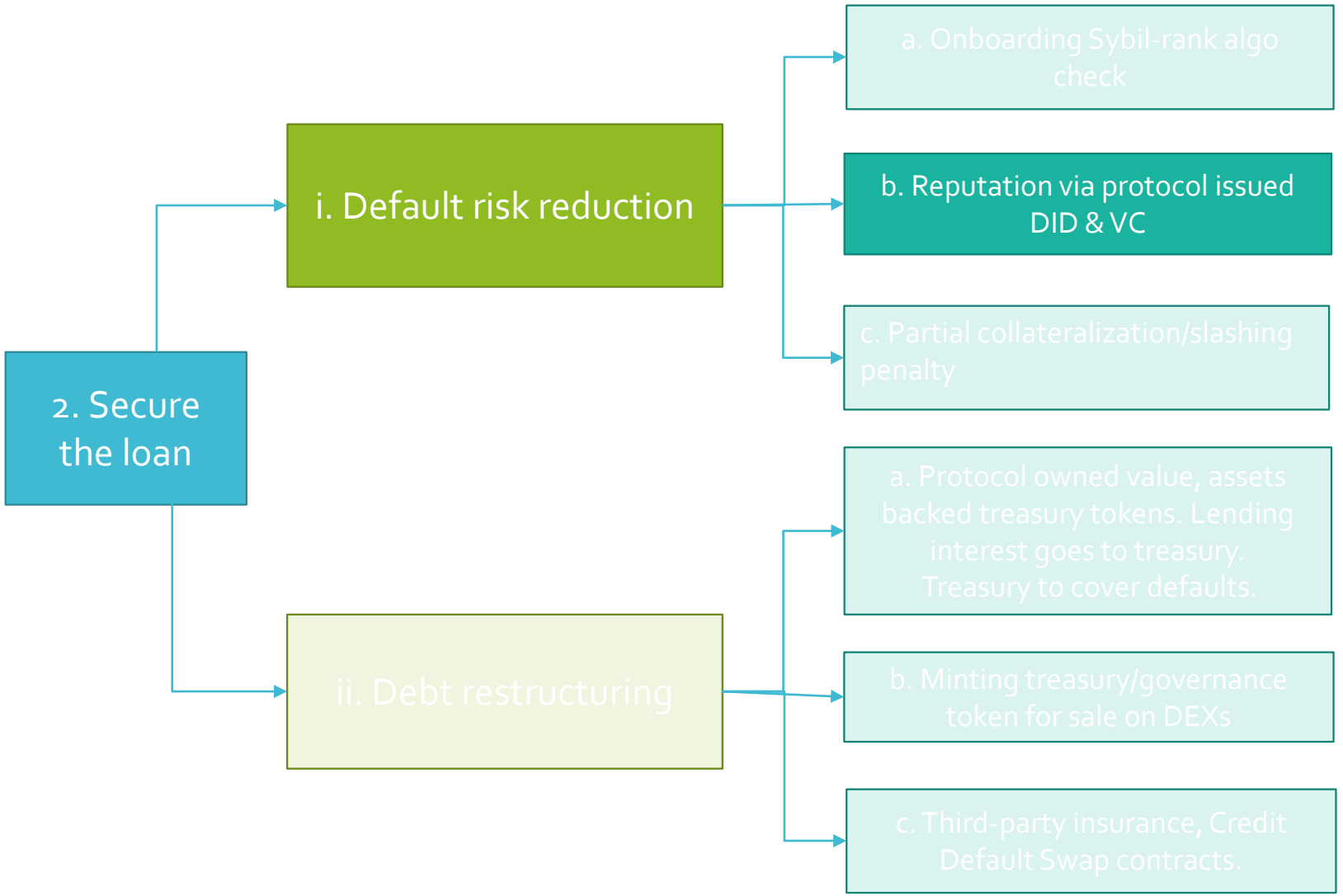
Default risk reduction – Anti-sybil onboarding

Anti-Sybil onboarding

1. User can use existing Ethereum address as Ormi DID
    1. Ethereum address with favorable interaction with existing DeFi protocol will result in lower collateralization ratio initially.
    2. Sybil rank type of algorithm is run on provided crypto address to assess existing reputation.
2. User can provide social media profile/government ID.
    1. For anti-sybil purpose not for KYC. Ormi never uses such data for KYC.

The above are all optional. Benefit is upfront lower collateralization ratio.

Default risk reduction – Reputation via DID & VC



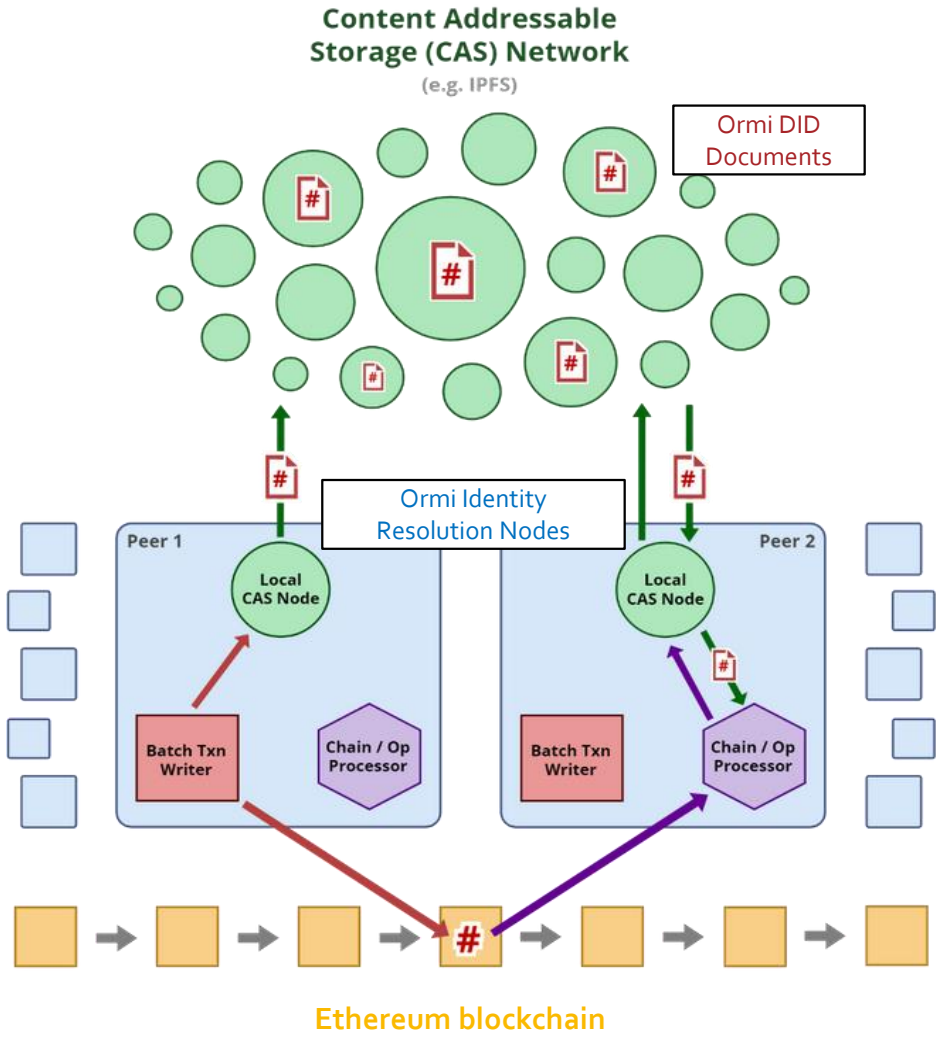
Default risk reduction – Reputation via DID & VC

Ormi Decentralized Identifier (Ormi DID)

1. Essentially decentralized public key infrastructure (DPKI). Uses blockchain as a chronological oracle to track the lifetime of an identifier. Operation: create, read, update, delete.
2. Based on W3C Sidetree protocol, L2 blockchain protocol.
3. Ormi will maintain it's own identity resolution nodes for DID resolution.
4. More expressive than just Ethereum address.

Default risk reduction – Reputation via DID & VC

Ormi Decentralized Identifier – much more than Eth address



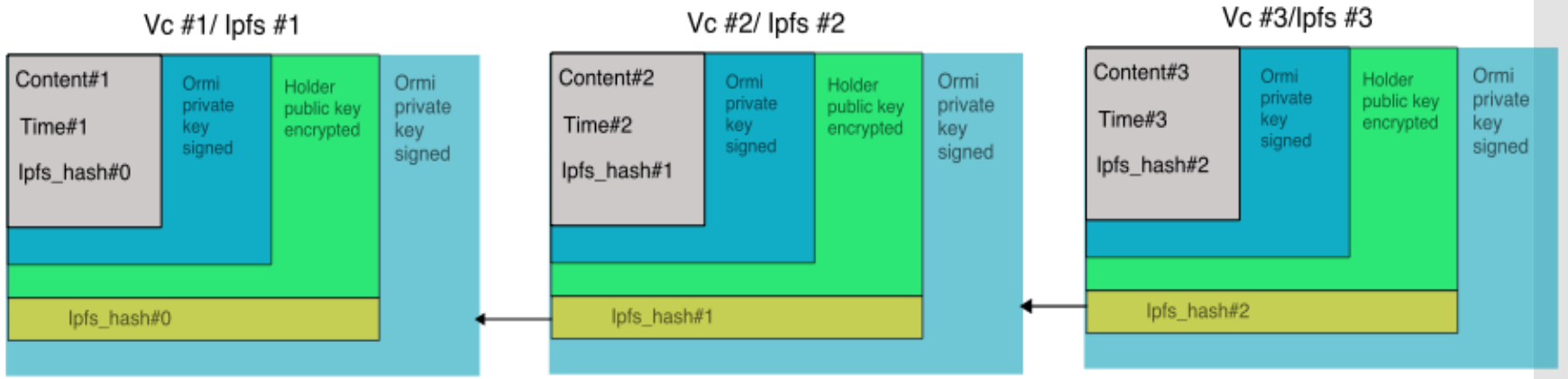
Default risk reduction – Reputation via DID & VC

Ormi Verifiable Credential (Ormi VC)

1. DIDs are useless without verifiable credential.
2. VCs are the de facto credit history/reputation for a DID.
3. Each verifiable credential acts as part of loan history associated with a DID.
4. Issued by protocol. Cryptographically chained together and stored on IPFS.
5. Tamper-proof, privacy preserving.

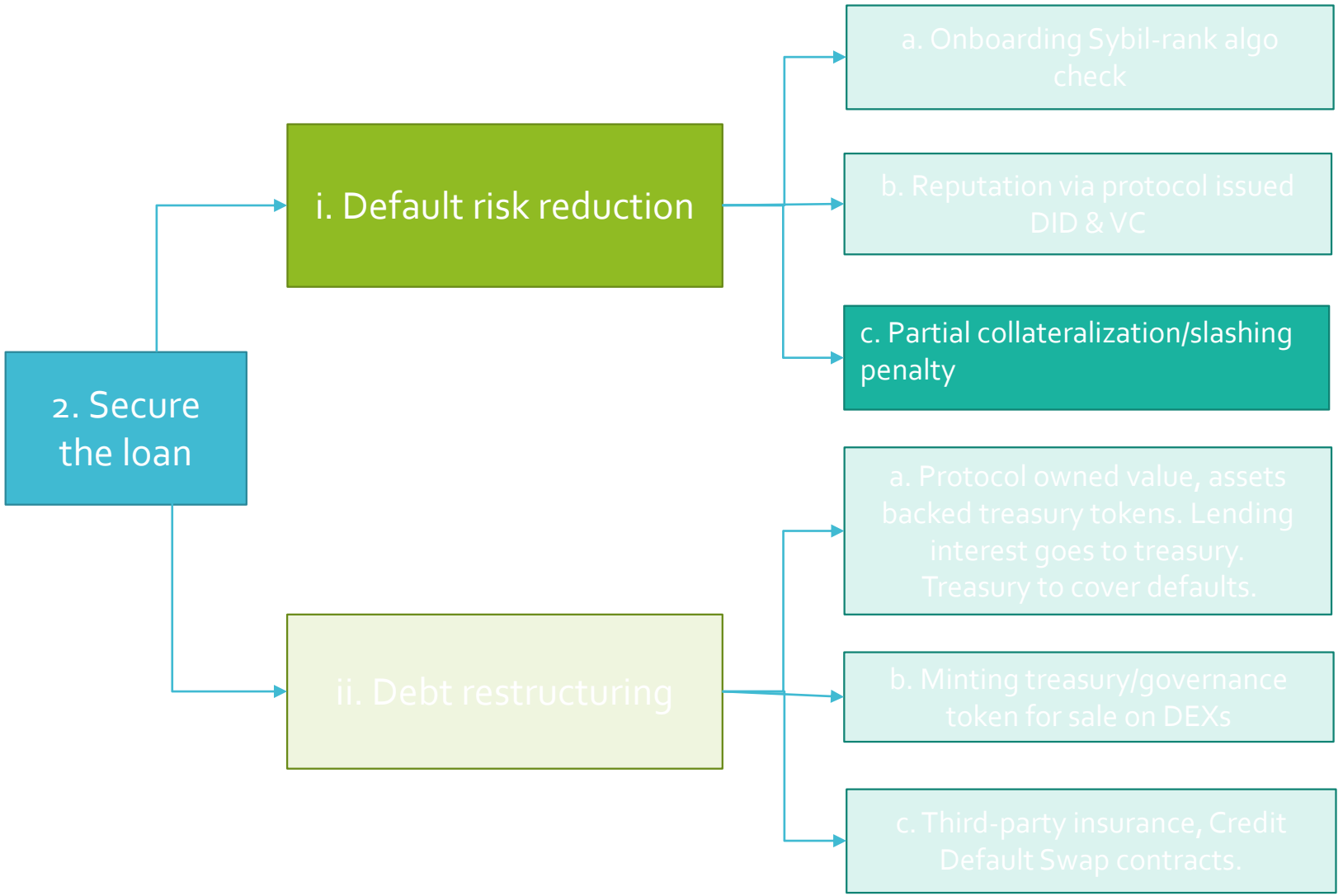
Default risk reduction – reputation via DID & VC

Ormi Verifiable Credential – user reputation/credit history



1. Issuance. Ormi VCs when issued to holder. Once issued, only the holder can read.

Default risk reduction – Partial collateralization

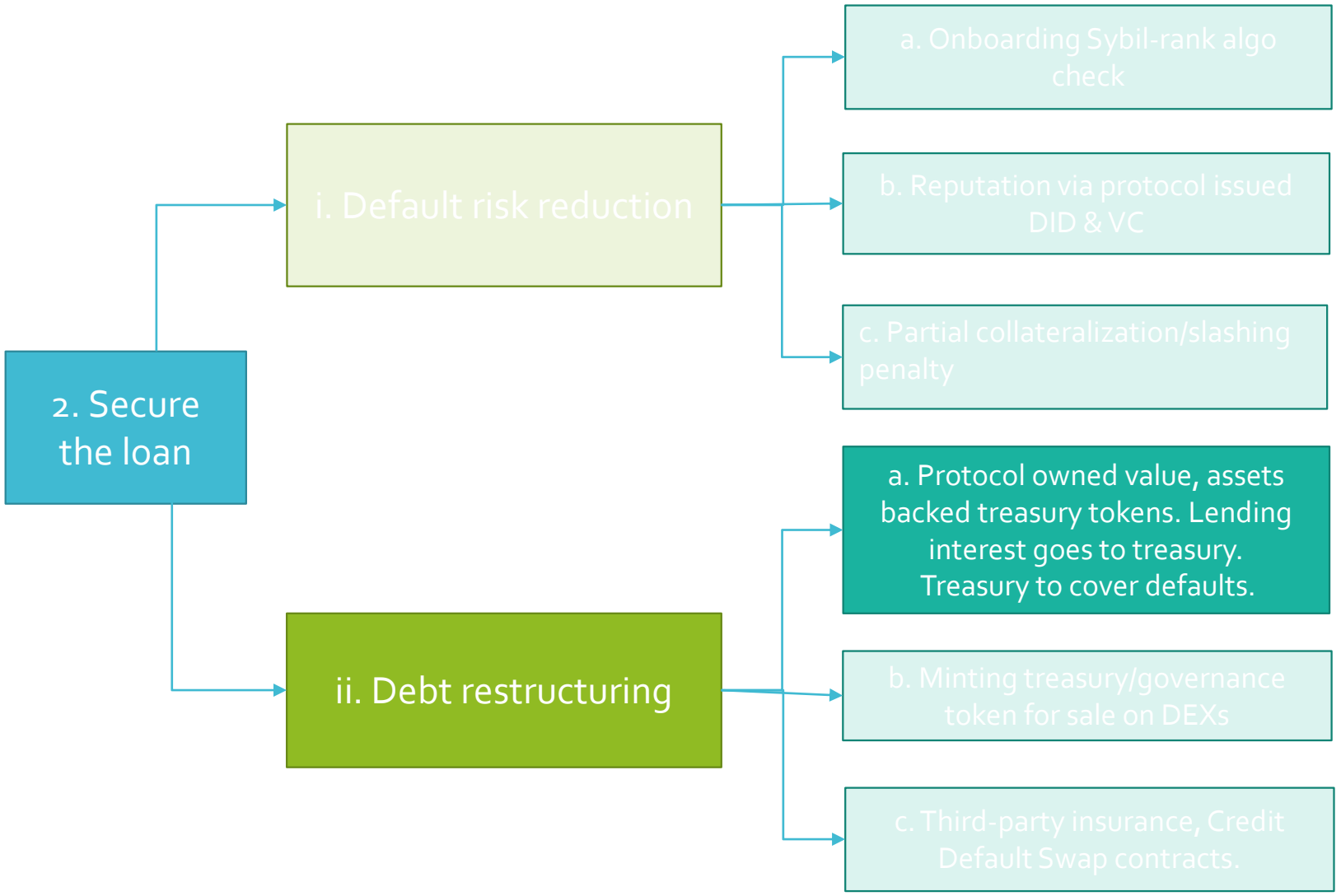


Default risk reduction – Partial collateralization

Incentives for borrowers to stay honest

1. Ormi v1 will be partial collateralization. <100% and >0%
2. A User/DID starts with 100% collateralization ratio, after each complete loan repayment or favorable loan activity, CR gradually and **linearly reduces** to 90%, 80% … 30%, etc.
3. In the event of liquidation or defaults, a DID's collateralization ratio requirement increases.
4. A User/DID's CR decreases linearly upon favorable behavior and **increases exponentially** upon unfavorable behavior.

Debt restructuring – Treasury



Debt restructuring – Treasury

Treasury to cover debt default

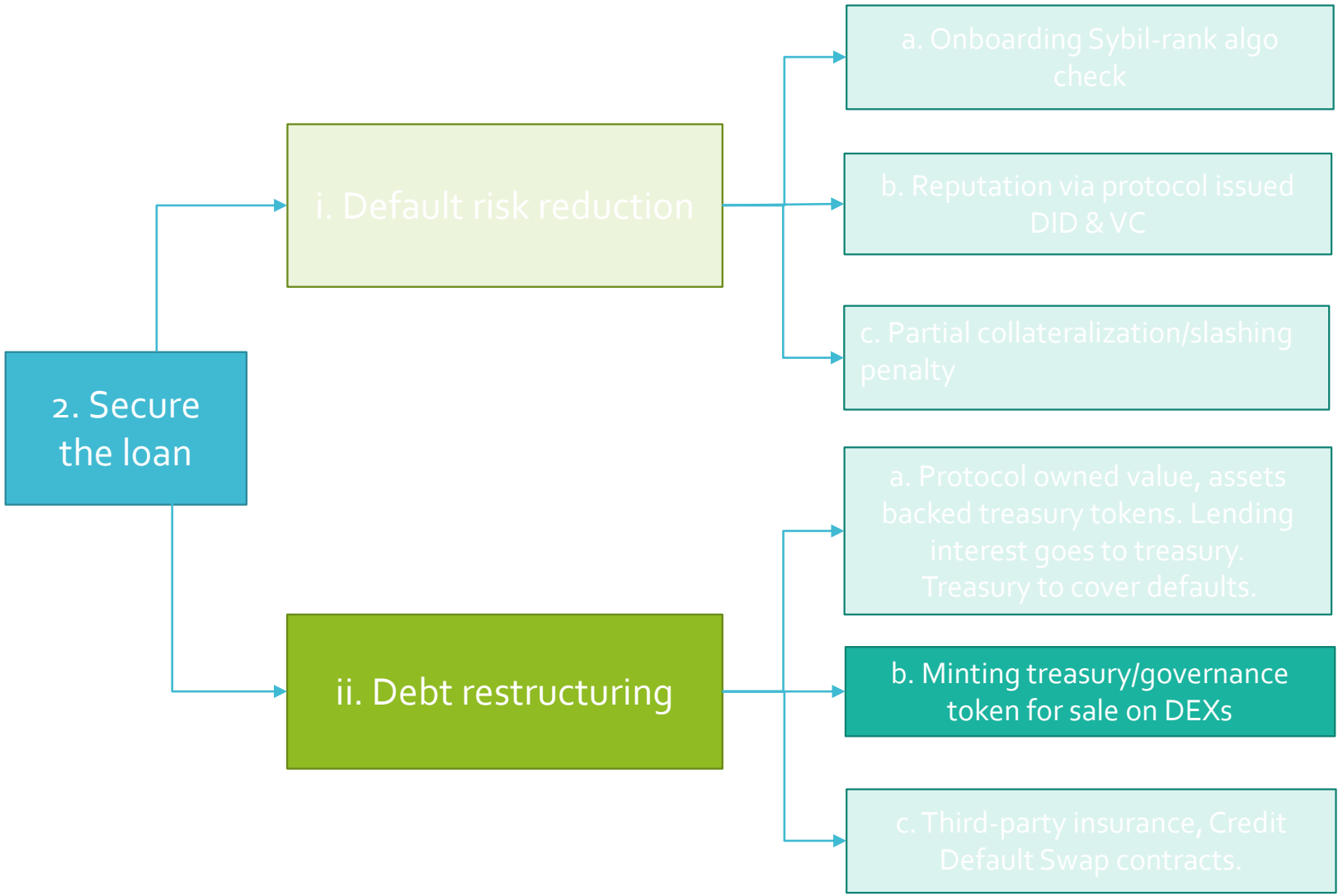
1. Ormi treasury covers the loss in liquidity from borrower default.

Debt restructuring – Treasury

Increase treasury balance sheet via protocol owned value

1. Ormi treasury takes in portion of interest of the loan.
2. Liquidation of collaterals.
3. User can bond (purchase) Ormi tokens at discounted price directly from Ormi using supported assets. These assets become Ormi treasury owned.
4. Ormi tokens are always backed up by assets in the treasury. Have floor price based on treasury assets.
5. Protocol owned value mechanism to ensure more Ormi token's intrinsic value.

Debt restructuring – Inflating Ormi tokens

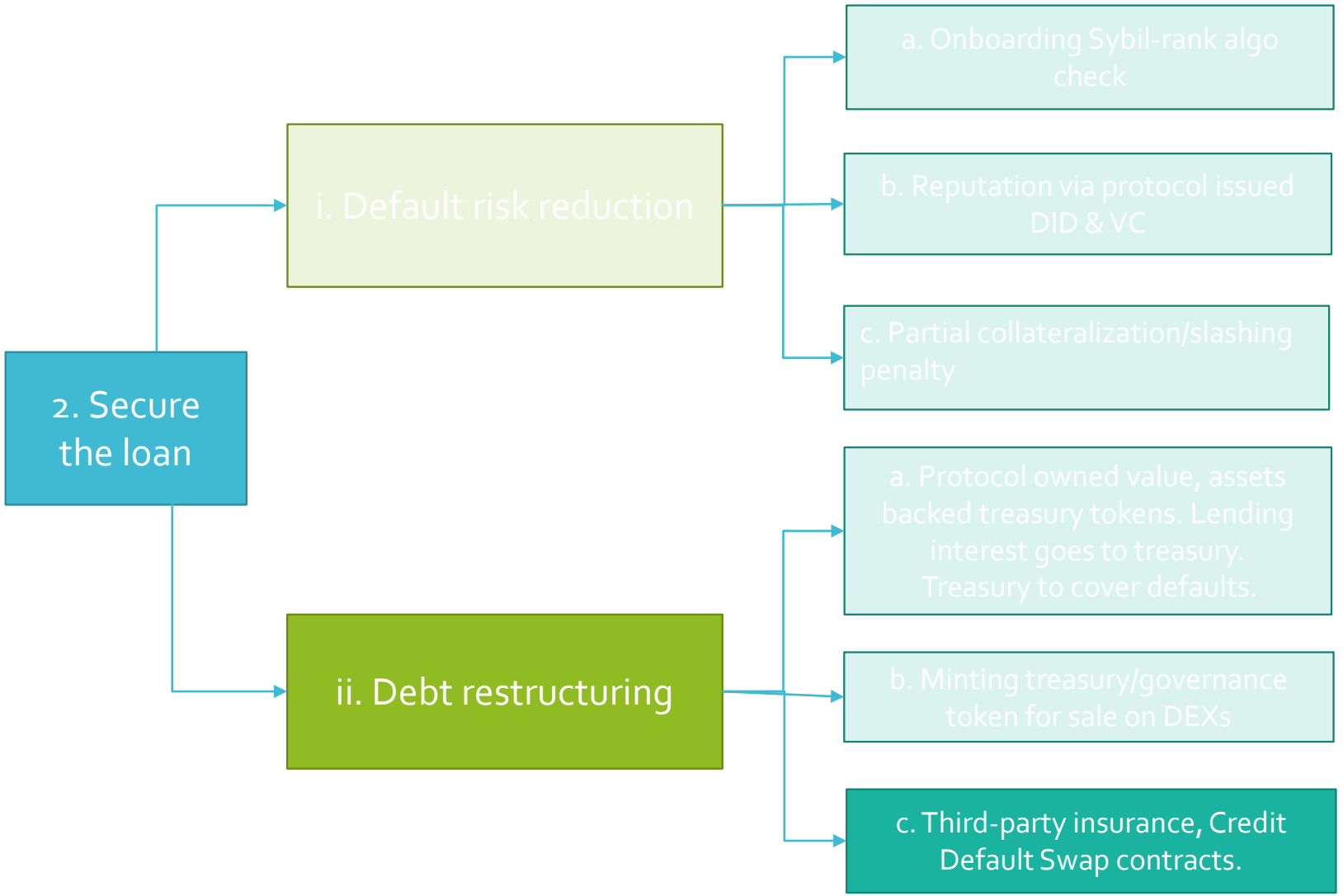


Debt restructuring – Inflating Ormi tokens

When treasury cannot sufficiently cover debt default.

1. Protocol steps in to mint/inflate Ormi tokens to be sold on secondary markets (DEXs) to raise funds to cover deficit in lending pools.
2. Ormi token holders/DAO members have the responsibility of ensuring the protocol lending pool's solvency via sound monetary policies.
3. The increase of supply of Ormi tokens may result in token's price decrease; penalizes Ormi token holders/DAO members poor monetary policies.

Debt restructuring - Insurance

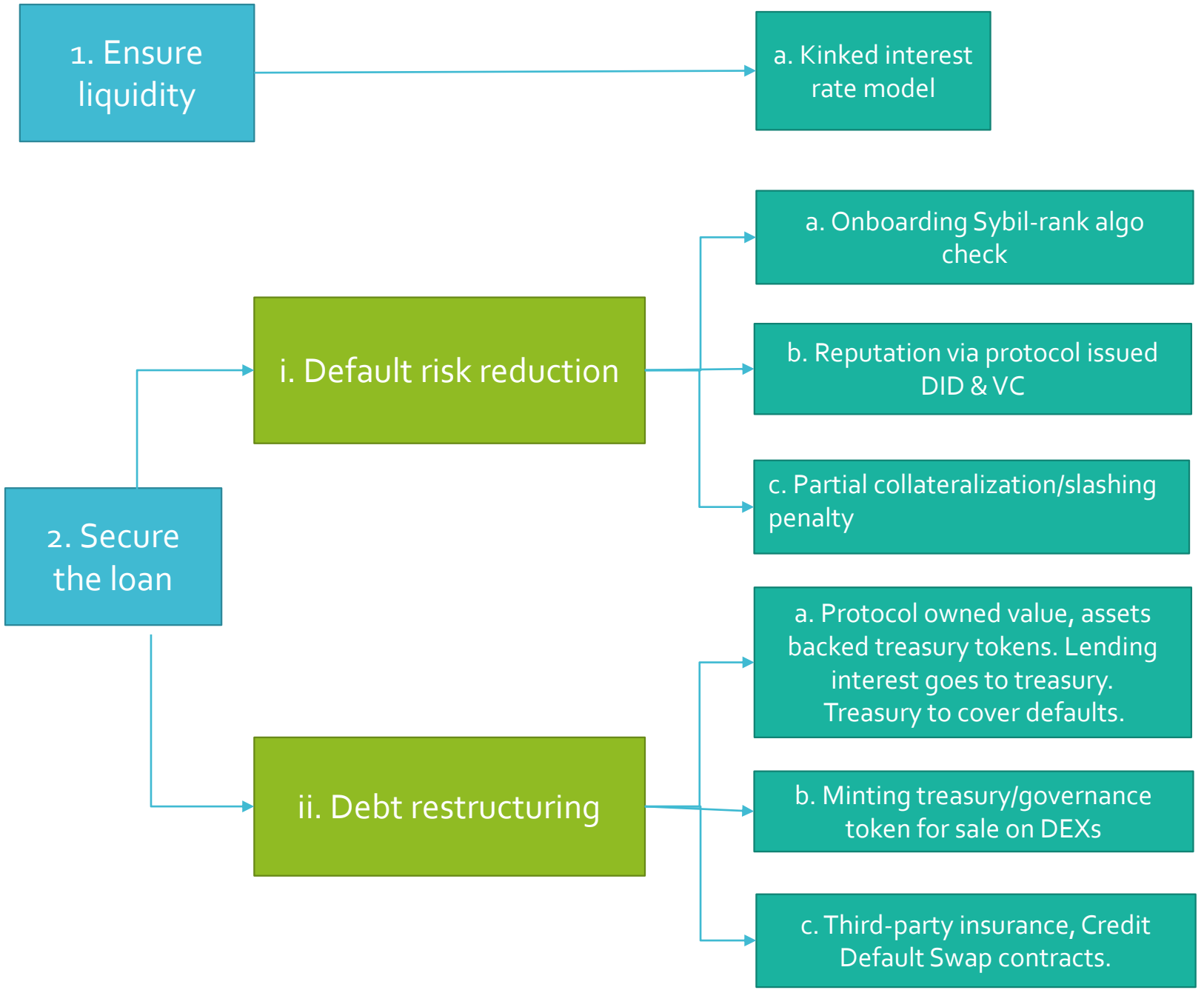


Debt restructuring – Insurance

Insurance, Credit Default Swap contracts

1. Ormi will negotiate with third-party insurance contracts for coverage on lending pools.
2. Lenders can individually opt in for insurance on their lending.
3. Future support for Credit Default Swap contracts.

Ormi components



Summary

Ormi protocol

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  - Protocol based reputation
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  - Partial collateralization/slashing penalty
  - Debt restructuring
- **How to provide liquidity:**
  - Kinked interest rate.

Team

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Q & A

Ormi | The decentralized credit protocol.