cash which is safekept in traditional payment systems and transformed by a tokenizer. In the context of this paper, only these fully backed tokens are regarded as recoverable collateral[7].

If an interoperability solution with an existing payment system is chosen, a technical interface with the distributed ledger processing the securities leg of a transaction would be required. The interface should allow for a payment message to be initiated and processed in the payment system while securely blocking the collateral on ledger. Depending on the successful execution of the payment leg, the blocked collateral tokens could be released and transferred to the beneficiary – conditional settlement would take place. Settlement finality only occurs if both legs (security tokens and cash) are successfully settled. Otherwise, the transaction is rejected. Depending on the specific solution, settlement finality could be achieved close to real time. The implementation of such a model would, however, require a deeper investigation of conditions and requirements (e.g. prolonged opening times and standardized message formats).

Alternatively, if the cash tokens were to be created directly on chain, settlement finality could be achieved instantaneously. If the cash token and the securities token are on the same chain, settlement finality is achieved in a single medium simultaneously for both legs of the transaction. If the cash token and the security token are on different DLTs, as in the interoperability solution, the transactions will need to be coordinated between the different chains e.g. by two-phase/three-phase commit or hash time lock contracts. Finality is only achieved once both chains have confirmed their final step in the execution of the transaction.

5 Legal Considerations

5.1 General Remarks

A fundamental precondition for the use of distributed ledger systems in collateral management is legal soundness. This comprises the compliance of the technical system with the current regulation regarding the finality of transfer orders. Moreover, all requirements faced by its stakeholders, whether they stem from banking, securities markets and infrastructure regulation or other fields such as accounting principles, have to be complied with. Further, the legal nature of the tokens is a basic attribute which needs to be clarified.

Currently, in the absence of a specific regulatory framework for a token economy, all actors must ensure that their token activities comply with the “traditional” rules and regulations applicable to their respective field of business. This means seeking legal opinions and making individual inquiries with their regulators. Since the token economy is not yet mature, many jurisdictions are just beginning to formulate legal frameworks regulating tokens and the associated activities. In the European Union a first effort has been made to implement a coordinated framework in the form of the current version of

[7] The classification as either central bank money or commercial-backed money and other legal questions regarding such tokens are beyond the scope of this study.