Liquidity in Credit Networks: A Little Trust Goes a Long Way

Remarks: Hans-Florian Hoyer

Credit networks represent a way of modeling trust between entities in a network.
Nodes in the network print their own currency and trust each other for a certain amount of each other's currency.

Credit networks emerge on trust, they mirror it. Is that called modelling?
Any promise to pay later is a privately "printed" IOU.

This allows the network to serve as a decentralized payment infrastructure— arbitrary payments can be routed through the network by passing IOUs between trusting nodes in their respective currencies—and obviates the need for a common currency.

Can trust be canned, so payments can be routed on it? My guess is no.
The unit, it is expressed in, will be a common one, at least between every two nodes with a credit relation.
At least it is possible, to construct a virtual unit as a common reference. As was done in medieval fairs and the Bank of Amsterdam (et.al.)

Nodes can repeatedly transact with each other and pay for the transaction using trusted currency. A natural question to ask in this setting is: how long can the network sustain liquidity, i.e. how long can the network support the routing of payments before credit dries up?

Does credit "drie up" when maintained al long time, or does it become stronger?
Credit dies up in an instant, when it is obvious, that a promise will not be fulfilled.

One of the primary functions of money is as a medium of exchange.

This is the one and only "function" of ±money. Give up the ownership, to become owner of something, you need to use/consume. Multiple use in circulation.
The function of the ÷money is to determine the part to participate. No ownership involved. No circulation. One time use.

This function is facilitated by governments and central banks that issue currency and declare it to be legal tender, i.e. the state promises to accept that currency back as payment for goods and services.

Thus currency represents an obligation issued by the state, and when used to make a payment, results in a transfer of the state's obligation from the payer to the payee.
A decision to accept payment in a currency is therefore a decision to trust the issuer of the currency to fulfill its obligations.

Transfering an obligation is delegation.
Delegation is possible between ordinary ppl, between them and banks.
Leaving the state aside, someone will only accept an IOU for his service or good if he is sure that others will also accept the IOU and that the goods/service he wants will be available for sale in the necessary quantity and quality. It is firstly a confidence in the normal course of the economy.

The modern banking system is a centralized currency infrastructure.

The central bank sits at the root of the tree. It issues currency, government notes, etc. Retail banks, individuals and businesses form the leaves of this tree. Since they cannot print their own currency, they trust the central bank for an infinite amount of money (in theory, at least).

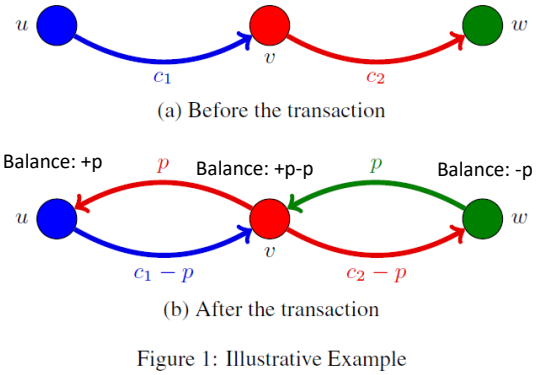


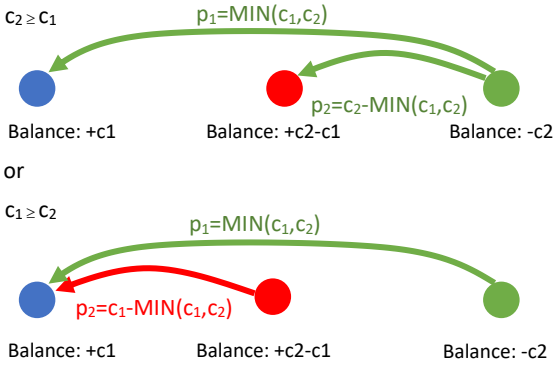
Figure 1: Illustrative Example

To settle: c_1+c_2
Settled: 2p
Liquidity needed: 2p
Open to settle: c_1+c_2-2p

Some see it as a cash-union of local private currencies issued by banks with very divers risks connected it. The use of the same unit as a yardstick gives rise to the erroneous idea of a central system.
Basically, we still have medieval coin confusion, only in book money. Banks have taken the place of sovereigns.

Plato's cave – ground level …

The autors stay behind the techniques of the merchants.



To settle: c_1+c_2
Settled: c_1+c_2
Liquidity needed: c_1+c_2 – MIN(c_1,c_2)
Open to settle: 0