

Business Plan for Local Currency Deployment

Perry Kundert

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Money created through debt and centrally-managed through interest rates has proven to be problematic. The benefits (such as the ability to create and issue large amounts of money to fund projects) are overwhelmed by the caustic effects of inflation, and the exponential growth of interest obligations.

Issuing fungible and trustworthy asset-backed money based on individual or collective wealth (assets, labour commitments, etc.) has until now been out of reach. The technical hurdles, and the opposition of entrenched political and banking incumbents have been insurmountable.

The time has now arrived where we are able to surmount these obstacles:

- Technology to implement reliable and performant decentralized monetary systems is here.
- The public will to accept decentralized value-stable money is rising.
- The government and bank opposition to sound money can be legally and technically overcome.

Contents

1	Executive Summary	2
2	What is "Sound Money"	3
2.1	Sound Money vs. Debt Money	4
2.2	Competitive Sound Money	4
3	Proposed Transition	4
3.1	Establish Non-Fiat Payment Options	5
3.1.1	Crypto Wallet Setup, Security & Reliability	5
3.1.2	Crypto L2 Payments	5
3.1.3	Precious Metals	5
3.1.4	Barter	5
3.2	Develop Mutual Credit Community Based Money	5
3.2.1	Insurance	5
3.2.2	Convertability	6
3.2.3	Value Stability	6
3.3	Decentralization	7

4	Financial Projections	7
4.1	1st Year: \$1,000,000 Cost	7
4.1.1	Initial R&D: 6 Months	7
4.1.2	Operational Deployment: 6 Months	7
4.1.3	Technical Team Lead: \$200,000	8
4.1.4	Holochain Full-Stack R&D: \$200,000	8
4.1.5	Monetary System R&D: \$200,000	8
4.1.6	Community Interface & Product Owner: \$150,000	8
4.1.7	Social Media, Communications & PR: \$100,000	8
4.1.8	Hardware, Software: \$50,000	8
4.1.9	Travel, Misc. Expenses: \$100,000	8
4.2	2nd Year: Neutral	8
4.3	3rd Year: Profitable	8
5	Effect on Community Business Success	8
5.1	Altman Z"-Score	8
5.1.1	Z"-Score vs. S&P Credit Rating	9
5.1.2	x_1 (37%) Current vs. Total Assets	9
5.1.3	x_3 (38%) Earnings Before Interest & Taxes vs. Total Assets	10
5.1.4	x_2 (19%) Retained Earnings vs. Total Assets	11
5.1.5	x_4 (6%) Market Value / Total Liabilities	11
6	Conclusion	11

1 Executive Summary

The widespread use of alternative sound money in local communities hinges on solving several problems:

1. Creating units of sound money dynamically, without central authority.
 - Improving the financial health of businesses and individuals in the community
2. Spending and accepting sound money in realistic, non-ideal circumstances.
 - Begin by enabling payment/acceptance of available sound money alternatives
 - Refine the definition and implementation of the community's sound money over time.
3. Build, advertise, expand and defend the knowledge of where alternative sound money can be used.
 - Using systems that cannot be interfered with by hostile authorities

The proposed Community Currency accomplishes these goals, and can be implemented legally, promptly and reliably using technology now available.

2 What is "Sound Money"

Unsound money is easy to define, as we are experiencing it every day:

- Unconstrained taxation, empowered by unlimited debt creation, results in money laundering and perverse market incentives.
- Uncontrolled inflation robs savers of their wealth, and transfers it to those first to the government trough.

How can sound money be created, and how can it prevent some of these problems? Traditional methods have been somewhat successful, but have not been able support community currencies, because not all communities can (or want to) convert their wealth into a different form, just to retain purchasing power:

"The gold standard makes the determination of money's purchasing power independent of the changing ambitions and doctrines of political parties and pressure groups. This is not a defect of the gold standard; it is its main excellence." – Ludwig von Mises

Reliable convertability of money to something of value – resistance to debasement – is a major (often subconscious) requirement users have of Sound Money. How can we achieve it, without (for example) forcing everyone to sell their wealth to buy other wealth to use as money? Is the only method to trust someone to not debase our money?

Some historical methods result in wealth being exchanged for units of money:

1. Directly using the valuable commodity as money (eg. gold coinage, barter)
2. Trusting some central authority to issue/redeem money for some valuable commodity (eg. gold-backed money)
3. Exchanging wealth for some other money with certain desirable properties (eg. Bitcoin, Fiat currency)

These are all analogous to "selling" wealth for money in Fiat banking. The wealth owner loses access to the wealth, gaining only the money (or what it purchased). This is typically the only form of money ownership available to the general population.

Alternatively, the creation and attested ownership of wealth can produce money; the owner retains use of the wealth, and units of money are created (which must be redeemed, in order to sell or transfer the attested wealth):

1. Using money representing confirmed ownership of wealth (eg. securitization, tokenization)
2. Creation of credit balances of money in Mutual Credit systems.
3. Trading obligations of future labour for money and/or other labour (Commitment Pooling).

These are mechanically very similar to "borrowing" in Fiat banking terms; a lien is established on the underlying wealth, various guarantees are assured (insurance, proof of title, etc.), and the credit balance is created. The balance created must be returned if the wealth is sold, or destroyed (triggering insurance). This type of money ownership is primarily reserved for the elites, except at very onerous terms and high interest rates (eg. Mortgages, demand loans).

Most oddly; the issuers of these loans (commercial banks) create these deposits out of thin air; they have no collateral other than that provided by the borrower. In return for this amazing government-mandated monopoly, they can charge interest for creating these new units of money.

2.1 Sound Money vs. Debt Money

All of these forms of Sound Money have a couple of significant deficiencies vs. debt-created Fiat money:

They are typically not *fungible*; "tokenized" chickens have a different value than some "mutual credit" units or "silver" coins. Future labour commitments from a ditch digger are not usually directly exchangeable for the same amount of service from a neurosurgeon.

As a consequence, accumulation of large pools of money is very challenging. Any large pool consists of various types of money, with a dynamic value vs. each other, and also vs. the acquisition target of the pool.

Debt-created Fiat money, on the other hand, is usually:

1. Fungible; all assets are converted into money, which can be pooled interchangeably.
2. Easily created; bonds can be issued and sold in large markets to raise funds, and deposits created by a commercial bank on promise of principle and interest repayment.

While a Fiat money supply retains its convertability to wealth, this works well. But typically, such convertability ceases as soon as the politicians controlling the treasury and central bank can manage it.

As a final result, the Cantillon Effect produces a fountain of unbacked money the flows through the hands of those closest to the treasury and central bank, allowing them to purchase wealth with current dollars, while the ultimate sellers end up with debased dollars in exchange.

2.2 Competitive Sound Money

All of these forms of money creation will continue to be available; we simply offer a competitive alternative.

We propose making the creation of Sound Money available to the general public, through the attested ownership of wealth, without a corresponding interest obligation – completely out of the control of central planners.

The public can continue to choose to take their collateral wealth and sell, convert or pledge and borrow against it to create traditional forms of debt-based money, if they so desire.

But, by making it *possible* for the general public to create balances of value-stable wealth-backed money on demand without interest (through the attested ownership of wealth and assurance of guarantees), it is likely that they will quickly convert any available wealth to sound money, and spend it, pay down their interest-bearing debt, or use it for whatever purpose they desire.

The only obligation required, is that they must redeem the attested wealth by restoring the money they created, if they wish to sell or otherwise dispose of the wealth. Other than that, they continue to enjoy and use the wealth as they always have.

3 Proposed Transition

Initially, we must begin offering some currently available Cryptocurrency based options (which are superior to debt-based money, even though they have many deficiencies). This allows businesses and clients to begin exercising their Cryptocurrency muscles; creating wallets, securing them amongst their community using SLIP-39 backups, and performing on-chain (L1; Bitcoin, Ethereum), side-chain (L2; Lightning) and non-custodial exchange (DeFi) transactions.

Next, we propose building simple partially centralized wealth-backed stable community currencies. These will initially have trusted community authorities that approve the attachment of

wealth to these currencies according to their agreed-upon vetting process. Authorized wealth attestation signatories (eg. Appraisers, with digital signing authority) will evaluate and approve wealth attached for the creation of units of the Community Currency. Also, community provided insurance adjusters will approve claims of loss/destruction of attached wealth, to make the Community Currency whole in the face of unexpected losses.

Finally, a fully decentralized implementation of both wealth attestation and insurance adjudication will replace the centralized authority, completing the transition to a fully decentralized wealth-backed Community Currency.

3.1 Establish Non-Fiat Payment Options

Immediately prepare and begin to roll out:

1. Cryptocurrency based payment rails for both vendors and buyers.
2. Recommend ongoing pricing in Gold & silver coin.

All non-Fiat savings can be hedged against conversion losses in the traditional Fiat futures or options markets, if necessary to protect future Fiat denominated obligations.

3.1.1 Crypto Wallet Setup, Security & Reliability

3.1.2 Crypto L2 Payments

1. Bitcoin "Lightning"
2. Ethereum Roll-Ups

3.1.3 Precious Metals

3.1.4 Barter

3.2 Develop Mutual Credit Community Based Money

We propose developing a Holochain-based framework for deploying community-based Money. Credit balances will be created directly through the community's attestation of wealth (proof of traditional valuation, insurance and liens).

3.2.1 Insurance

The insurance required to assure the integrity of the community money may be provided by external insurers, or may be provided by the money's authoring community for a fee. It should reflect the actuarial risk of the assets (a car on the road vs. silver in a bank safe deposit box), the net balance of the account (proportion of the asset value being insured), and the risk of the owner (historically how likely is such an owner to default, defraud, etc.).

These estimation techniques are widely known in the risk community, and should be adjusted from time to time to ensure stability of the insurance fund. Credit Default Swaps are quite well modelled and understood, and should provide a strong foundation for pricing premiums and estimating reserves required to protect the Community Currency against losses.

The triggering of payouts from the fund should be prompt, to maintain the net zero balance of the Mutual Credit currency. They may be automatic (eg. triggered after a certain threshold and/or

time period of negative balance), or manually triggered, as desired by the community money's organizers. However, valid Mutual Credit operations in process must remain valid, so long as they were entered into before the account fell into arrears.

3.2.2 Convertability

Until markets and exchanges are available in the Community Currency, existing exchanges must be used to for Fiat on/off-ramps. Many exchanges deal in Ethereum and ERC-20 Stablecoins such as USDC and USDT, so a means must be available to convert between the native Community Currency units and an ERC-20 form.

Then, conversion to other Cryptocurrencies and to/from Fiat is accomplished through integration into the existing Ethereum ERC-20 DeFi exchanges platforms (eg. PancakeSwap, Uniswap, linch, ...).

A centralized community exchange controls conversion between Community Currency Mutual Credit units and ERC-20 units on a one-to-one basis. This would be run by the same community organization in charge of the attestation of wealth underpinning the community Mutual Credit currency. Units of Community Currency are deposited and held in reserve, and ERC-20 tokens are issued and transferred into the depositor's Ethereum wallet address. Later, deposits of ERC-20 tokens are burned and the reserve's Community Currency tokens are transferred to the depositor's Community Currency wallet.

The use of pools on Ethereum L2 sidechains (eg. Polygon, Arbitrum, Optimism, ...) is worth considering due to their dramatically lower fees vs. Ethereum native DeFi.

3.2.3 Value Stability

If desired, the definition of the community currency can be defined to be value-stable in terms of some reference basket of wealth.

When wealth is pledged to create a credit balance, the process is:

1. Estimate the value of the wealth in its primary market (eg. USD\$)
2. Estimate its assets' uncertainty function over time (eg. reduced value since attestation).
3. The community responsible attests to the wealth, and the presence of necessary insurances.
4. Apply the money's current credit multiplier to compute the credit balance, reduced by the uncertainty function, regularly (eg. daily or hourly) on all credit balances.

A closed-loop control function (such as a PID loop) measures and corrects money unit/basket value:

1. The current value of the proposed wealth basket (eg. in USD\$/basket, in their markets)
2. The current value of the community money (eg. in USDC/unit, on DeFi exchanges)
3. The control function computes the new money credit multiplier due to in/deflation
4. All credit balances are adjusted due to the new credit multiplier
5. Any accounts with negative credit balances must attest more wealth, or purchase money on the market to restore net positive balance.

6. Insurance contracts are executed to make good any account persistently in arrears, using traditional means to recoup losses.

This is a very brief overview; much more detail about this process is available at my Owner Credit Git Repo and in my Wealth Coin paper.

3.3 Decentralization

The final step is to build robust distributed attestation performance ratings and markets, and insurance adjudication validation systems.

By eliminating the centralized vesting of authority over attestation and insurance, and instead using the same historical performance feedback (poor sale value predictions = low attestation fees) and distributed rule validation (incorrect insurance adjustment claims = low adjudication fees), both the attachment of wealth and creation of Community Currency units, and recovery from unexpected loss of wealth becomes more trustworthy and scalable.

4 Financial Projections

We propose an aggressive R&D plan over a 1 year period, resulting in several prototypes followed by an operational deployment of a Holochain-based community money system.

4.1 1st Year: \$1,000,000 Cost

Over the first year, R&D and community communications and collaboration are costs, with no income from system operations to offset them.

Of course, the project can be investigated and a detailed break-down of timelines and costs can be accomplished at a much lower initial investment! But, this is a rough guess at how much a fully operational system would cost to achieve in the short timelines required.

4.1.1 Initial R&D: 6 Months

I foresee the first 6 months of the year dedicated to:

1. Designing and testing currently available near-term systems and solutions such as Lightning Network
2. Producing PR and travelling extensively to communicate the long-term plan, and advise on near-term solutions.
3. Producing 2-4 prototypes of the community money system, with increasing functionality
4. Designing an integration with traditional insurers to provide re-insurance

4.1.2 Operational Deployment: 6 Months

Once an operational Mutual Credit community money system is accepted, and the community money ERC-20 exchange is operational, initial deployment can begin.

A small set of vendors with some large willing clients is chosen, to invest a subset of their trade through the community money system. Instead of settling in cash, the clients either create

community money (through attestation of wealth) or purchase it using the Fiat USDC to ERC-20 token DeFi, then exchange for Mutual Credit units via the community exchange.

Then, they settle client to vendor transactions using community money instead of Fiat.

Finally, the vendor cashes out community money via the community money to ERC-20 exchange, and then the ERC-20 DeFi pool to receive USDC, when can be converted and deposited to Fiat accounts via any Cryptocurrency exchange.

Alternatively, the vendor can purchase wealth using community money payments to other vendor(s). Then, by attesting the newly purchased wealth, they can create new community money (interest free), and cash that out, as described above.

4.1.3 Technical Team Lead: \$200,000

4.1.4 Holochain Full-Stack R&D: \$200,000

4.1.5 Monetary System R&D: \$200,000

4.1.6 Community Interface & Product Owner: \$150,000

4.1.7 Social Media, Communications & PR: \$100,000

4.1.8 Hardware, Software: \$50,000

4.1.9 Travel, Misc. Expenses: \$100,000

4.2 2nd Year: Neutral

Wider community uptake results in insurance fee revenue collection filling the loss buffer, and sufficient to pay for maintenance and further R&D of the operating community money system.

4.3 3rd Year: Profitable

Fees on wealth attestation insurance begin to stabilize, and are automated using PID control to yield a revenue stream to support the ongoing operations of the community money system, while maintaining a buffer against adverse insurable events (eg. natural disasters)

5 Effect on Community Business Success

Unless a Community Currency improves the success of local businesses (and by extension, the lives of those both who work for them, and those who use their products, why would anyone adopt it?

5.1 Altman Z'-Score

A useful metric in evaluating a business' health is its Z'-Score, developed by Altman in 1968. This metric, produced from published financial data, can be used to predict the future health of the business. In particular, how statistically likely the business is to default.

This score can be used to price Credit Default Swaps; a method for estimating the "insurance premiums" that must be charged, to accumulate funds to offset defaults in any attested wealth pledged for the creation of Community Currency money.

How does a Community Currency influence the Z'-Score? Let's see.

$$Z'' = 6.56x_1 + 3.26x_2 + 6.72x_3 + 1.05x_4$$

x_1 = Working Capital / Total Assets
 x_2 = Retained Earnings / Total Assets
 x_3 = EBIT / Total Assets
 x_4 = Market Value of Equity / Total Liabilities

(1)

The net effect of Debt vs. Community Currency (from greatest to least impact):

5.1.1 Z''-Score vs. S&P Credit Rating

A relationship between Z'' Score and S&P Credit Rating has been long established:

Rating	Z''-Score	Health	Rating	Z''-Score	Health
AAA	>8.15	Safe Area	BB+	5.65	Grey Area
AA+	8.15		BB	5.25	
AA	7.60		BB-	4.95	
AA-	7.30		B+	4.75	
A+	7.00		B	4.40	Distress
A	6.85		B-	4.15	
A-	6.65		CCC+	3.75	
BBB+	6.40		CCC+	3.20	
BBB+	6.25		CCC-	2.50	
BBB-	5.85		D	<1.75	

Let's imagine a small company earning \$30,000/year before interest/taxes (1/2 Retained), with \$60,000 in Current Assets and \$10,000 in Current Liabilities. It has another \$140,000 in Non-Current Assets (equipment, etc.) for \$200,000 Total Assets, and an additional \$40,000 in Non-Current Liabilities for \$50,000 in Total Liabilities. A conservative market valuation of the company's Retained Earnings over 5 years is assumed.

It's Z'' Score is currently:

$$x_1 == (60,000 - 10,000) / 200,000 == 0.25 * 6.56 = 1.64$$

$$x_2 == 15,000 / 200,000 == 0.075 * 3.26 = 0.25$$

$$x_3 == 30,000 / 200,000 == 0.15 * 6.72 = 1.00$$

$$x_4 == (15,000 * 5) / 50,000 == 1.5 * 1.05 = 1.57$$

Thus, the company's Z'' Score is 4.5, giving us an S&P rating of B+; in bottom of the "Grey Area" of financial health.

It is considering borrowing \$50,000 at 10% APR for \$5,000/yr interest, to expand and provide a buffer for its business.

How does taking on Debt Financing vs. accumulating Community Currency affect its health?

5.1.2 x_1 (37%) Current vs. Total Assets

The first Z'' term x_1 is the ratio of Working Capital / Total Assets, or (Current Assets - Current Liabilities) / Total Assets.

Working capital is the difference between the current assets of a company and its current liabilities. The value of a company's working capital determines its short-term financial health. A

positive working capital means that a company can meet its short-term financial obligations and still make funds available to invest and grow.

Current Assets (assets convertible to cash within 1 year) are deemed to be available to liquidate to pay expenses, Current Liabilities are those due within the year.

Total Assets encompass current assets, but they also include non-current assets such as property, plant, and equipment (PP&E), intangible assets (like patents or trademarks), long-term investments, and other non-current assets.

1. Debt Financing: Mortgaging Non-Current Assets

Increasing Current Assets by assuming debt (borrowing against Non-Current assets or issuing Bonds) is the typical approach. This improves x_1 by increasing Current Assets (cash) much more than it increases Current Liabilities (principal + interest payments).

$$x_1 == (60,000 - 10,000) / 200,000 == 0.25 * 6.56 = 1.64$$

After receiving the proceeds of the \$50,000 loan:

$$x_1 == (110,000 - 15,000) / 250,000 == 0.38 * 6.56 = 2.5$$

Thus, the company's X'' rises by about 0.86 due to x_1 .

2. Community Currency: Attestation of Non-Current Assets

Instead of mortgaging assets at interest, a similar amount of capital becomes available by obtaining attestation on the assets, and attaching them to the Community Currency account of the organization. Similar insurance, lien and legal costs are required as for issuing debt.

The effect on x_1 is identical to debt financing; however, once the Community Currency credit balance is issued, there *is no interest payable*, which increases future Earnings and reduces Current Liabilities.

5.1.3 x_3 (38%) Earnings Before Interest & Taxes vs. Total Assets

EBIT shouldn't change x_3 , regardless of the source of funding (Retained Earnings, which is net of interest, will alter x_2).

1. Debt Financing

x_3 is reduced, due to the additional \$50,000 of Total Assets:

$$30,000 / 200,000 == 0.15 * 6.72 = 1.008$$

After:

$$30,000 / 250,000 == 0.125 * 6.72 = 0.806$$

So, the company's X'' drops about 0.2 due to x_3 ; the net change is now about +0.66, so it's still a marked improvement.

2. Community Currency

The effect on x_3 is identical to Debt financing.

5.1.4 x_2 (19%) Retained Earnings vs. Total Assets

Every year the \$5,000 interest payment for debt financing weighs on the company's Retained Earnings.

1. Debt Financing; Reduction in Retained Earnings

All else being equal, any retained earnings **must** be reduced by (at least) the amount made unavailable due to the interest payments; \$15,000 reduces by \$5,000, so x_2 's contribution of 0.25 is reduced to:

$$x_2 = 10,000 / 250,000 == 0.04 * 3.26 = .130$$

A reduction in Z'' of .12, to a new net change in score of +.73.

2. Community Currency; Retained Earnings Unaffected

Since no interest payments drag on Retained Earnings, only the increase of Total Assets affects x_2 :

$$x_2 = 15,000 / 250,000 == 0.06 * 3.26 = .2$$

A reduction in Z'' of only .05, to a net change in score of +.81.

5.1.5 x_4 (6%) Market Value / Total Liabilities

The drag on earnings in Debt vs. Community Currency financing would influence equity valuation negatively. Since this valuation is often subjective, we're limiting it to just Retained Earnings; one of the most obvious measure of a company's long-term profitability.

1. Debt Financing

$$x_4 == (10,000 * 5) / 50,000 == 1.0 * 1.05 = 1.05$$

A reduction in Z'' by x_4 dropping from 1.57 by 0.52 to 1.05 reduces our net score change to +0.21.

Under Debt Financing our final Z'' **Score is 4.5, implying an S&P rating of B+** (unchanged).

2. Community Currency

The Retained Earnings remain unchanged with Community Currency issuance, though, and our Z'' net score change remains +.81.

Under Community Currency financing our final Z'' **Score is 5.08, implying an S&P rating of BB** (improvement of 2 full S&P ratings).

6 Conclusion

An aggressive plan to develop a viable Mutual Credit community currency is proposed.

A 1-year plan to research, develop, deploy and test the community money system establishes a group of vendors and clients to test the prototype deployment using real money, in preparation for the second year's opening of the system to further vendors and clients, who can either purchase or create community money through attestation of wealth.

Let's build this future together.