

Natural Money proposal for the Tesla Conference

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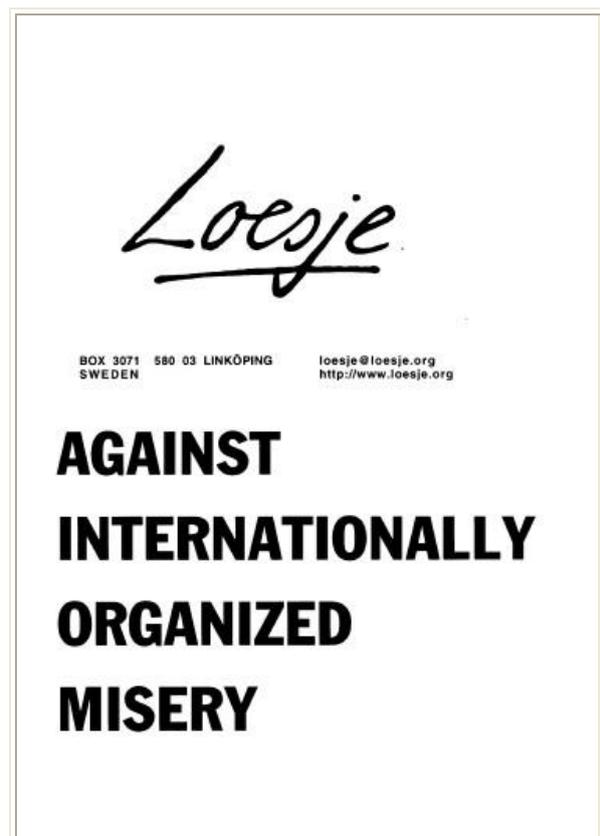
Introduction

The choice

There is a need for an alternative to the current globalised economic system but reality does not always meet our needs. Therefore a proposal for an alternative should start with understanding the way markets behave. Most economists think that local currencies are less efficient and will remain marginal at best. Less efficient systems are destroyed by the laws of competition. Local communities are not able to compete with the global marketplace.

It does not have to be that way. One outstanding example demonstrates this. During the Great Depression the Austrian town of Wörgl introduced scrip money. The faster circulation of scrip within the local economy increased trade and created extra employment. The success was copied by neighbouring villages and a town. Soon two hundred Austrian townships were interested in adopting the idea. Then the central bank banned scrip money [1] [2].

If scrip money had not been banned at that time, the success story would have spread and everybody would use scrip money today. It only takes one community like Wörgl to make it happen now. Copying the Wörgl experiment can unleash a power that will finish off the current financial system. Less efficient systems will be



destroyed by the laws of competition. The global marketplace will not be able to compete with the local communities.

In the future there will be no more economic crises. There will be sufficient employment for everyone. The economy will become sustainable. Central governments and multinational corporations will crumble. The division of labour will be reversed. Jobs that do not contribute to the real economy will vanish. Once set in motion this development cannot be stopped. This may be just in time as the current globalised economic system is collapsing right in front of us.

The interest free community economy is just around the corner, but only if we do the right thing. We have the choice: muddle through and see civilisation collapse before our eyes or make it happen and change the world.

Capitalism is suicide

Capitalism as we know it equals to collective suicide. Capitalists call our roadmap to destruction freedom of choice. Within the Capitalist economy we are free to choose which products to consume but we are not free to choose for our own survival. Those who take measures to save the Earth will be outcompeted by others who do not take these measures. Money dictates our choices and this can be called a dictatorship of money.

Mother Nature is not kind to those who destroy their own living conditions. Their demise will be caused by their own unfitness for survival. The Club of Rome already warned in 1972 with its report *The Limits to Growth* that the current economic system will end in disaster.

Money has become the most important measurement of value but money in itself is worthless. This makes everything worthless including human existence. Western culture is suicidal because it attaches too much value to money, while the value of our future existence cannot be expressed in terms of money. Currently food supplies are practically non-existent, nature is being destroyed and social structures are unravelling, while politicians and corporate interests block effective solutions [18].

All interest is usury

Interest causes wealth to concentrate as the poor pay interest to the rich. Interest can be seen as a tax on poverty to the benefit of the rich. Interest disrupts the flow of money in the economy and causes economic crises. Therefore an interest based economy is inefficient. The following example demonstrates this and also that interest on money is unsustainable in the long run:

If someone brought a 1/10 oz gold coin to the bank in the year 1 AD, and the

money remained there until the year 2000 AD, collecting a yearly interest of 4%, the amount of gold in the account would have been $3.6 * 10^{31}$ kilogramme of gold weighing 6,000,000 times the complete mass of the Earth.

If interest is charged on a limited scale or over a short timeframe then those problems do not surface. Over time it is inescapable that it reduces large numbers of people to a state of servitude to the money lenders. This is a long term development that transcends the life span of a human. Interest is the main reason why a number of civilisations have failed and why Western civilisation is about to fail. Therefore all interest is usury and the current financial system is a usury financial system [10].

In order to get rid of interest on money a holding fee on money is needed otherwise there is no reward for the risk of lending out money at 0% interest. Because money with a holding fee circulates in the economy no additional debts or money printing is needed to energise the economy. The economy will do well by itself. There will be no inflation so lending out money at 0% will be attractive.

Natural Money Bomb: the way to blow up the usury financial system

Introduction

A superior power is needed to finish off the current world order based on usury banking. Natural Money is money with a holding fee (scrip money) combined with a ban on charging interest. The Natural Money Bomb employs the superior efficiency of Natural Money to wreak havoc and create chaos in the financial system. It will bring down the banks and Wall Street when it is used. The core ingredient and explosive material is Natural Money. It will end the current world order and can be the basis for the future economy based on local self sufficiency. The Natural Money Bomb will finish off the usury financial system because of Gresham's Law:

Bad [depreciating] money drives out good [stable] money. So depreciating money is a superior form of money.

Most people are afraid for change and they have good reasons for that. They want a better alternative and see it work before they accept it. This scheme has been tried before in Wörgl and Lignières-en-Berry with great success (see appendix). The Wörgl experiment became explosive because many towns and villages wanted to copy it. For this reason the central bank of Austria banned it. The Lignières-en-Berry experiment was explosive because it would have replaced regular usury money within a few years. For this reason the government of France banned it. If the experiments had not been banned then everybody would use scrip money now.

The secret formula

Currently there are thousands of similar currencies and LETS systems but they did not achieve the success of Wörgl and Lignières-en-Berry. The hidden secret of success is the power that will bring down the usury financial system. In order to turn scrip money into a killer the following conditions must be met:

- The currency must be exchangeable in regular usury money but exchanging it must be less attractive than keeping it.
- At least initially the currency has to be backed with regular usury money.
- Local businesses must accept the money.
- There must be an incentive to use the money in the form of a holding fee.
- The money must be attractive.

There are two methods to produce an explosive experiment that can spread like wildfire:

- A public currency issued by a government like in Wörgl that can be used as a payment for taxes.
- A private currency issued by a community, a group of people like in Lignières-en-Berry or a corporation.

The scheme of Lignières-en-Berry is the most easy to implement because it needs only a small amount of capital and it does not need a large organisation or support of a government.

Fatal attraction

The Wörgl currency was attractive because Schillings were hard to come by [1]. In Lignières-en-Berry a clever scheme was devised to make the money attractive [3] [4]. It was the following:

- People could buy the money at 95 cents to the Dollar/Euro.
- They could spend it as 1 Dollar/Euro because businesses accepted the money at that value.
- After four months they could exchange the money at 98 cents to the Dollar/Euro.
- They could instead buy a stamp of 1 cent to make the money valid for another month and spend it as 1 Dollar/Euro again.

The situation in Lignières-en-Berry soon became explosive because:

- People bought the money because they could spend it at a 5% profit or exchange it at a 3% profit after four months.
- Businesses accepted the money because it generated extra business and it could cost them no more than 2%, but if they did spend the money then there was no loss at all.
- The money circulated fast because spending was more attractive than keeping the money.

- Many people chose to buy the stamp even though they could get back 98 cents because by buying the stamp they could spend the currency unit as 1 Dollar/Euro.

If no currency is returned then the profit is the 1% holding fee per month excluding costs. If there are no costs and the profit is used to issue additional currency then 33% additional currency can be created each month. At the same time the money is sound because it is backed by regular usury money.

This money spreads fast and the experiment in Lignières-en-Berry became explosive. Many communities moved to copy the system. This alarmed the Bank of France so much that in July 1957 it sent a team of police specialists to investigate what it saw as a virus about to contaminate the whole country [4]. It may have taken only a few years until the money had replaced usury money in France. For this reason the government of France banned it.

Capital and profit

To set up a Lignières-en-Berry currency you do not need much capital. If you intend to issue 100,000 Dollar/Euro of currency units you only need 3,000 Dollar/Euro. People will buy the currency at 95 cents so they bring in 95,000 Dollar/Euro while you need 98,000 Dollar/Euro to pay them back.

It is possible that the operation will run at a profit because people have to pay a holding fee to keep the money valid. The profit can be used to the following ends:

- To issue additional currency. In this way the scrip money will spread fast. If the market becomes saturated more people will return the money for 98 cents so the profit will disappear and the situation will stabilise.
- For the benefit of the community, for example poverty relief.
- It can be added to the value of the currency so the value of the currency will rise. This will make the money attractive for investors to invest in, for example by loaning out money at 0% interest.
- A dividend for shareholders. Many people will not prefer this solution but in a free market this type of money can exist alongside public and community currencies.

If a consortium of local business owners issues the currency then the operation can run at a loss but still be profitable to the local business owners overall because it generates more business for them. In Lignières-en-Berry salaries were exchanged into the local currency and this generated more business locally. Even though the Lignières-en-Berry scheme did not produce a loss, it probably had been profitable for the local business owners to sustain the scheme even if there was a loss.

Extra employment

The fast circulation of the scrip money generates extra employment. It can produce

even more employment if employers and employees agree on using it for salary payments. This happened in Lignières-en-Berry and this was crucial in making the currency such a success that it threatened the usury financial system [4]. Some possible schemes are the following:

- The employer pays a regular salary including taxes but the employee agrees to return a part of his or her salary to the employer in exchange for scrip money.
- The employer pays a minimum wage including taxes and an additional amount in scrip money. This scheme could cause trouble as it results in reduced tax income for the government.
- Governments may choose to accept scrip money for taxes so it will be possible to pay salaries in scrip money.

Possible adaptations in the scheme

It is possible to make some adaptations in the scheme like the following:

- The buy and sell price can be made one cent lower so it will be more attractive to buy the stamp.
- Interest rates are lower now than they were in France in 1956, so a lower return profit of 2 cents in four months (6% annually) can still be attractive.
- The money can be sold at a price of 97 cents and returned at a price of 98 cents after two months.

A successful example of a similar scheme is the Chiemgauer in Germany (see appendix) [6]. The Chiemgauer can become explosive as soon as the scheme is not used to promote charities but to make the money attractive. If businesses are able to pay salaries (partially) in Chiemgauer or when a local government accepts the money for taxes then it can turn into an unstoppable force that will replace usury money.

Issues

There are some issues that should be addressed:

- The government has a monopoly on issuing money so the currency may need to be named gift certificates or vouchers.
- The organisation behind the gift certificates must be trustworthy and transparent. This may require independent oversight and auditing.
- Before the experiment starts a significant number of businesses must be willing to accept the gift certificates.
- If too many gift certificates are issued the chance increases that gift certificates are returned, creating a loss of three cents per unit returned.
- People that sell gift certificates must not be able to buy new gift certificates at a lower price at the same time. This problem can be mitigated by limiting the issuance per person. Preventing over issuance will also help to alleviate this problem.

Setting up a local currency is a labour intensive job that will take time. People and

businesses have to be contacted and persuaded to use the currency for payment [7]. It may be more practical to adapt an existing local currency and turn it into a Natural Money Bomb. The existing network of the local currency can provide the initial clout the scheme needs.

There may come a clash between banks and governments versus money reformers. Banks and governments cannot stop the spread of knowledge and the functioning of markets so their resistance will be futile. In a democratic society people should control the government and therefore the superior efficiency of Natural Money can be a power tool to enforce democratic reforms. The most important one is a referendum law that will give citizens full control over their government. This will end the rule of the elite.

Economic efficiency

Introduction

The reason why the experiments in Wörgl and Lignières-en-Berry were so successful is superior economic efficiency of Natural Money. In the Natural Economy only useful capital is built while in the usury economy useful capital is often replaced by useless capital. This is also the reason why the Natural Money Bomb will wipe out the usury financial system. The superior economic efficiency of Natural Money manifests itself in the following ways:

- A constant flow of money that makes the economy perform better from a systems perspective.
- Without the usury economic cycle the functioning of markets improves.
- Trade imbalances are resolved.
- Sustainable investments become more attractive.
- Systemic risk is eliminated from the financial system.
- More can be done with fewer resources.
- A higher economic growth rate produces higher returns on capital.

Systems perspective

Try to imagine that the economy is a system like the human body [10]. All parts of the system need each other to operate properly. Try to imagine that money flowing in the economy is like blood flowing in the body. In this case it would not make sense that a kidney is saying to the liver: "This is my blood you may borrow it at interest." It also does not make sense for parts of the body to hoard blood because there might be no blood flowing in the future. Strangely enough economists think that this makes sense.

Systems theory conflicts with economics. Charging interest makes sense to economists but interest presses the weakest spots in the

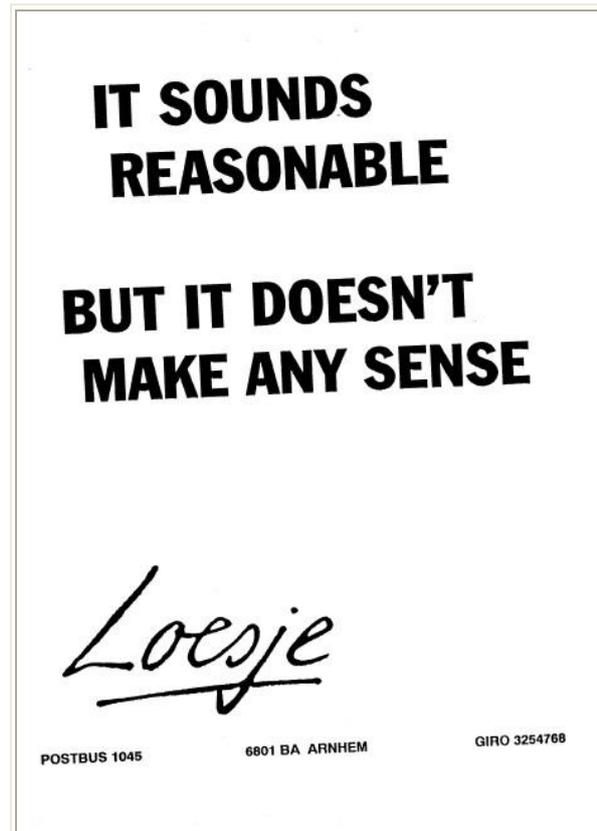
economy the hardest. This is because the weakest borrowers have to pay the highest interest rates and this will make the weakest borrowers even weaker. According to systems theory the economy would be far more efficient when the weakest spots are not pressed and when useful capital would not be destroyed in recessions and depressions.

All parts of the economy need money for the supply of energy like all parts of the body need blood for the same reason. If the blood circulation is hampered then the body will not perform well. Likewise if the flow of money in the economy is hampered then the economy will not perform well. A holding fee on money will improve the circulation of money and therefore the efficiency of the economic system.

The usury economic cycle

The usury economic system favours large scale operations [10]. During the usury economic cycle useful capital is replaced by useless capital. This works as follows:

- If businesses leverage their balance sheet and make use of debt on which interest is paid, they need larger scale operations to achieve the same income level for the business owners because a part of the business income is going to the usurers. In good times businesses can borrow money to expand their operations. There is a reward for taking risk in the form of interest so there is a tendency to over invest.
- When a recession sets in many businesses fail because demand falters and there is no credit available. If a larger scale operation fails it is often not liquidated but taken over at a lower price which makes it more cost effective for the new owners than



smaller operations that are more conservatively financed.

- When the economy recovers a smaller number of larger scale businesses have survived. They start to increase their capacity again and become even larger than they were before.

This cycle is repeated again and again so with usury large scale operations have the advantage. The usury economic cycle caused the division of labour to go further than it otherwise would have done. The effect of the usury economic cycle favouring large scale operations is amplified by the free flow of capital and free trade as this created a competition of everybody against everybody on a world wide scale. As a consequence dependencies have escalated and people have become less self sufficient. In this way "the system" has been created. Before the middle of the twentieth century most people lived in villages that were largely self dependent. Henceforth more and more people live in cities and societies have become more complex than they would have been without usury.

The usury economic cycle makes the economy less efficient because the functioning of markets is perverted by cycles of leverage and liquidation. During the boom phase useless capital is created. During the bust phase useful capital is destroyed. In this way useful capital is replaced by useless capital. As less and less people can have an income from real economic output because money lenders take an ever increasing share of the profits, productive jobs have been replaced by service sector jobs that do not produce a good or service someone needs.

Balancing trade

Trade imbalances are economically inefficient and therefore Natural Money will make the economy more efficient. A holding fee on money will make international trade work based on comparative cost advantages like David Ricardo explained in his book *On the Principles of Political Economy and Taxation* [12]. A relative cost advantage between countries will result in balanced trade as the currencies will not be hoarded because of the holding fee. A country that has a trade deficit will see its currency drop until exports match imports. Currently some countries run large current account deficits for a long period of time because of carry trades based on interest rate differentials and exporting nations hoarding currencies of importing nations.

Current account deficits destroy productive capital of importing nations. This is a process of reverse economic development resulting in a third world economy. Complete industries have been wiped out in the United States because the US Dollar was propped up by high interest rates and currency hoarding by exporting nations like China and Japan. This created useless capital in China and Japan. Those countries produce goods and services for US Dollars that will prove to be worth less in the future as the United States has too little productive capital to support the value of its currency. To balance the trade useless capital in China and Japan may need to be destroyed and replaced by useful capital in the United States.

Sustainable investment choices

When interest on money is charged, money in the future is valued less than money now. This has a major impact on investment choices. Interest promotes investments that are unsustainable and wasteful. If no interest was charged, sustainable investments would be more attractive [5]. The following example demonstrates this [3]:

Suppose that a cheap house will last 33 years and that it will cost 200,000 Euro to build. The yearly cost will be 6,060 Euro (200,000 divided by 33). A more expensive house costs twice as much (400,000 Euro) but will last a hundred years. This house will cost only 4,000 Euro per year. For two thousand Euros per year less, it is possible to build a house that is not only more pleasant to live in, but will also cost less in energy use.

After going to the bank for a mortgage application the math changes, because the bank calculates interest. If the interest rate is 10% then the expensive house will not only cost 4,000 Euro per year on write-offs, but during the first year there will be an additional interest charge of 40,000.00 Euro (10% of 400,000.00 Euro).

The long lasting house now costs 44,000.00 Euro in the first year. The cheaper house now appears less expensive again. There is the yearly write off of 6,060.00 Euro but during the first year there is only 20,000.00 Euro in interest charges. Total costs for the first year are only 26,060 Euro. During the following years, lower interest charges still make the less durable house cheaper.

This example shows that without interest charges there is a tendency to select long-term solutions while with interest charges short-term solutions will be preferred. Interest charges make long-term solutions uneconomical. This is also true on a larger scale. Natural resources such as rainforests are squandered because of a short term profit. Intelligent forest management could earn a profit for centuries to come but within the present money system it can be more profitable to cut down the rainforest now and put the money in the bank to earn interest. With a tax on money, long term solutions become even more preferred. For example, the people in Wörgl started to plant trees in anticipation of future revenues.

Systemic risk

Interest is an allowance for risk and therefore interest introduces risk in the financial system [10]. This risk appears on the balance sheets of financial institutions and can become a systemic risk. People, organisations and countries that have troublesome debt levels can borrow more if they are willing to pay higher interest rates, which further erodes their capacity to repay. If there was no interest on money, debtors cannot borrow more than they are able to repay. Consequently debtors must reorganise their finances in an earlier stage. Because of the usury economic cycle,

booms and busts alternate. During the boom phase, individuals and corporations take on more debt. During economic downturns the perception of risk changes and debts are liquidated, which further intensifies the economic downturn.

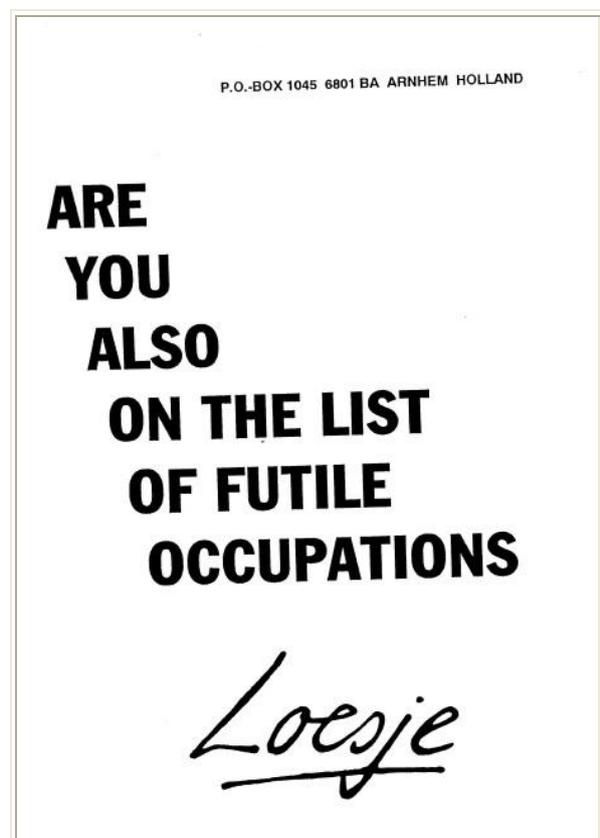
With Natural Money there will be less systemic risk in the financial system for the following reasons:

- A ban on charging interest will reduce the risk that lenders are willing to take.
- Debts cannot grow out of control because of interest charges.
- The balance sheets of corporations and individuals will become less leveraged.
- Risky projects will be financed with equity instead of loans.
- The constant flow of money within the economy caused by the holding fee will reduce the risk of economic downturns.

Doing more with fewer resources

Currently many people are working in jobs that do not produce a good or service someone needs. Those jobs can be found in bureaucracy, management, consultancy, trade and technology [11]. For those jobs energy and natural resources are needed as roads and offices have been built, cars are driven and the office buildings are heated. Those jobs consume resources but produce nothing so they have a negative economic value. The apparent need for those jobs has arisen because of the usury economic cycle favouring large scale operations. The economy would be more efficient if those occupations were eliminated. If that happens people would have more leisure time and more labour would be available for useful ends.

In general smaller organisations are more efficient. Theoretically the optimal organisation size is one person as it minimises communication and information processing that do not contribute to economic output [11]. The main obstacles to increasing organisational effectiveness by communication reduction are complexity and change. Complexity and change require communication. If the situation was easy to understand and does not change then everybody knows what he or she must do and communication is less needed. The complexity of the environment of organisations as well as the pace of change has escalated in recent decades. Complexity is partly the consequence of the usury economic cycle favouring large scale operations while the world wide competition of everybody against everybody is a driver for constant change.



Replacing a tax on labour with a tax on fossil fuels will help to replace fossil fuel consumption with labour and renewable energy resources. The use of energy is an important cause of poverty as it causes trade balances of reverse developed nations like the United States and the United Kingdom to go negative, while it also creates the perceived need for costly resource wars to protect the exchange of natural resources and energy for currencies that would otherwise be worth less as those nations have too few exports to support the value of their currencies. If the money spent on resource wars is spent on energy conservation and renewable energy then the trade balance of the reverse developed nations would improve and consequently the wealth of the people living in those countries would increase[18].

Superior efficiency will enforce change

The secret behind the Natural Money Bomb is the superior efficiency of Natural Money. Markets will enforce the change because there will be a capital flight from the usury economy to the Natural Economy. This can be explained as follows [17]:

1. Interest on money should be banned. Return on capital is a good thing and should not be abolished.
2. Raise a tax on holding money. This is not a tax on wealth, so shares, real estate and money lent, should not be subject to this tax.
3. Do not create more money so there will be no monetary inflation.
4. Because there is a holding fee on money people will use the money to invest, to consume or to lend without interest.
5. Because interest is an allowance for risk, and no interest may be charged, the following will happen:
 - Money will only be lent to reliable people and companies.
 - Less money will be lent and more money will be directly invested in equities and real estate.
6. There will never be an economic crisis because money is spent directly and there are practically no bad loans.
7. Because all money is directly used for investment or consumption, the economy grows steadily and there is sufficient employment.
8. As the economy grows constantly and because no more money is created, prices will fall. Loans with zero percent interest will have a positive return that is higher than real interest rates in the usury financial system.
9. If one community, region or country applies this system, it will cause a capital flight to the interest free economy since the return on loans with zero percent interest is higher than the yield on interest products in the usury economy. This will force the rest of the world to abandon usury.
10. After that everyone can achieve economic freedom. There will always be work for employees and there will always be customers for viable businesses. Nobody is deeply in debt.

The improvement in returns may not always be higher return rates per se, but it can also consist of better risk reward ratios. To make it work no more currency should be issued after the initial phase. After the initial phase the Natural Money currencies

should float against the usury currencies in a free market so they can rise in value.

Who designed the scheme?

Economic doomsday device to achieve Paradise

The Natural Economy looks like Paradise compared to the current situation. The Natural Money Bomb is an economic doomsday device that will transform the world economy in a short timeframe at a time that the usury economy is facing its end game [15]. It is remarkable that this happens just before December 21, 2012. This begs the question: Who designed Natural Money? The main ingredients of Natural Money are a holding fee on money and a ban on charging interest.

The origin of this design can be found in The Bible and The Quran:

- A holding fee on money was invented by the Egyptians after Joseph built storehouses for grain and took all the money from the Egyptians.
- Charging interest on money is condemned in both The Bible and The Quran.
- Periodic debt forgiveness as proposed in The Bible will curtail unwise lending and borrowing.
- Unleashing the Natural Money Bomb will produce a situation similar to the story of the Tower of Babel.

Joseph in Egypt

The Bible contains a story about the Pharaoh having dreams that he could not explain. The Pharaoh dreamt about seven fat cows being eaten by seven lean cows and seven full ears of grain being devoured by seven thin and blasted ears of grain (Gen. 41:1-45). Joseph was able to explain those dreams to the Pharaoh. He told the Pharaoh that seven good years would come and after that seven bad years would follow. Joseph advised the Egyptians to store food on a large scale. They followed his advice and built storehouses for food. In this way Egypt survived the seven years of scarcity.

What is less known because it is not recorded in The Bible is that the storing of food resulted in a financial system. The historian Friedrich Preisigke discovered that the Egyptians used grain receipts for money [3] [5]. Farmers bringing in the food got receipts for grain. Bakers who wanted to make bread brought in the receipts which could be exchanged for grain. Because Joseph took all the money from the Egyptians (Gen. 47:14-15), they had to invent an alternative currency [10].

It did not take long before the grain receipts were generally accepted as money. Because of storage costs, the degradation of the grain and mice eating it, the value of the receipts was steadily decreasing. This stimulated people to spend the money fast. The grain money remained in function in Egypt until it was replaced by the Roman currency during the late Ptolemaic period. The grain receipt monetary system was stable and did not collapse. It helped Egypt to remain a viable civilisation for 1,500 years.

The actions of Joseph helped to create this system as he proposed the grain storage and took all the money from the Egyptians. A side-issue for the Natural Money case but more interesting for Biblical scholars is that this discovery is one of the few pieces of evidence supporting the Book of Genesis.

Interest in The Bible and The Quran

Exodus

22:25. If you lend money to one of my people among you who is needy, do not treat it like a business deal; charge no interest.

22:26. If you take your neighbour's cloak as a pledge, return it by sunset,

22:27. because that cloak is the only covering your neighbour has. What else can they sleep in? When they cry out to me, I will hear, for I am compassionate.

Leviticus

25:35. If any of your fellow Israelites become poor and are unable to support themselves among you, help them as you would a foreigner and stranger, so they can continue to live among you.

25:36. Do not take interest or any profit from them, but fear your God, so that they may continue to live among you.

25:37. You must not lend them money at interest or sell them food at a profit.

Deuteronomy

23:19. Do not charge a fellow Israelite interest, whether on money or food or anything else that may earn interest.

23:20. You may charge a foreigner interest, but not a fellow Israelite, so that the Lord your God may bless you in everything you put your hand to in the land you are entering to possess.

Nehemiah

5:9. So I continued, "What you are doing is not right. Shouldn't you walk in the fear of our God to avoid the reproach of our Gentile enemies?"

5:10. I and my brothers and my men are also lending the people money and grain. But let us stop charging interest!

5:11. Give back to them immediately their fields, vineyards, olive groves and houses, and also the interest you are charging them—one percent of the money, grain, new wine and olive oil.”

Psalms

15:1. Lord, who may dwell in your sacred tent? Who may live on your holy mountain?

15:2. The one whose walk is blameless, who does what is righteous, who speaks the truth from their heart;

15:3. whose tongue utters no slander, who does no wrong to a neighbour, and casts no slur on others;

15:4. who despises a vile person but honours those who fear the Lord; who keeps an oath even when it hurts, and does not change their mind;

15:5. who lends money to the poor without interest; who does not accept a bribe against the innocent. Whoever does these things will never be shaken.

Proverbs

28:8. Whoever increases wealth by taking interest or profit from the poor amasses it for another, who will be kind to the poor.

Ezekiel

18:7. He does not oppress anyone, but returns what he took in pledge for a loan. He does not commit robbery but gives his food to the hungry and provides clothing for the naked.

18:8. He does not lend to them at interest or take a profit from them. He withholds his hand from doing wrong and judges fairly between two parties.

18:9. He follows my decrees and faithfully keeps my laws. That man is righteous; he will surely live, declares the Sovereign Lord.

18:13. He lends at interest and takes a profit. Will such a man live? He will not! Because he has done all these detestable things, he is to be put to death; his blood will be on his own head. .

18:17. He withholds his hand from mistreating the poor and takes no interest or profit from them. He keeps my laws and follows my decrees. He will not die for his father's sin; he will surely live.

22:12. In you are people who accept bribes to shed blood; you take interest and make a profit from the poor. You extort unjust gain from your neighbours. And you have forgotten me, declares the Sovereign Lord.

The Quran

2:275. Those who charge usury are in the same position as those controlled by the devil's influence. This is because they claim that usury is the same as commerce. However, God permits commerce, and prohibits usury. Thus, whoever heeds this commandment from his Lord, and refrains from usury, he may keep his past earnings, and his judgment rests with God. As for those who persist in usury, they incur Hell, wherein they abide forever.

2:276-280. God condemns usury, and blesses charities. God dislikes every disbeliever, guilty. O you who believe, you shall observe God and refrain from all kinds of usury, if you are believers. If you do not, then expect a war from God and His messenger. But if you repent, you may keep your capitals, without inflicting injustice, or incurring injustice. If the debtor is unable to pay, wait for a better time. If you give up the loan as a charity, it would be better for you, if you only knew.

2:282. O you who believe, when you transact a loan for any period, you shall write it down. An impartial scribe shall do the writing. No scribe shall refuse to perform this service, according to God's teachings. He shall write, while the debtor dictates the terms. He shall observe God his Lord and never cheat. If the debtor is mentally incapable, or helpless, or cannot dictate, his guardian shall dictate equitably. Two men shall serve as witnesses; if not two men, then a man and two women whose testimony is acceptable to all. Thus, if one woman becomes biased, the other will remind her. It is the obligation of the witnesses to testify when called upon to do so. Do not tire of writing the details, no matter how long, including the time of repayment. This is equitable in the sight of God, assures better witnessing, and eliminates any doubts you may have. Business transactions that you execute on the spot need not be recorded, but have them witnessed. No scribe or witness shall be harmed on account of his services. If you harm them, it would be wickedness on your part. You shall observe God, and God will teach you. God is Omniscient.

3:130. O you who believe, you shall not take usury, compounded over and over. Observe God, that you may succeed.

4:161. And for practising usury, which was forbidden, and for consuming the people's money illicitly. We have prepared for the disbelievers among them painful retribution.

7:157. "Follow the messenger, the gentile prophet (Muhammad), whom they find written in their Torah and Gospel. He exhorts them to be righteous, enjoins them from evil, allows for them all good food, and prohibits that which is bad, and unloads the burdens and the shackles imposed upon them. Those who believe in him, respect him, support him, and follow the light that came with him are the successful ones."

30:39. The usury that is practised to increase some people's wealth, does not gain anything at God. But if you give to charity, seeking God's pleasure, these are the ones who receive their reward manifold.

Periodic debt forgiveness

In The Bible once in seven years a Sabbath Year was introduced in which debts were forgiven (Deut. 15:1-18). Once in the fifty years there was a Jubilee (Lev. 25:8-55). In the Jubilee every man could return to his possession while the land had to be redeemed. The Bible also banned charging interest. The periodic debt forgiveness in The Bible was not unique as Mesopotamian royal edicts cancelled debts, freed debt-servants and restored land to cultivators who had lost it under economic duress [13].

It is often argued that periodic debt forgiveness like a ban on interest charges will deprive people from needed credit. When there is a holding fee on money this will not happen. The absence of a risk premium in the form of interest and periodical debt forgiveness will refrain potential creditors from letting debtors go too far into debt. It is also in the interest of the borrowers not to borrow more than they are able to repay. Therefore the absence of interest and the introduction of recurrent debt forgiveness can be helpful in curtailing unwise lending.

The freedom advocated by the Covenant Code of Exodus, the septennial year of release in Deuteronomy and the Jubilee Year of Leviticus' Holiness Code were not just abstract literary ideas, but concrete legal practises freeing rural populations from debt servitude and the land from appropriation by foreclosures. It is therefore reasonable to assume that those concepts will still work well today. The creation of debt under a system of interest can be considered as fraud because new debts are needed to pay off the interest on existing debts, making debts grow exponentially. The current financial crisis can be considered as the endgame of a system of fraud by usury, so debt forgiveness is needed [14].

The Tower of Babel

Division of labour empowers humans to create great works at the risk of people becoming too specialised. People working on the same project or working in the same organisation often do not understand each other. In many cases nobody oversees the complete picture. This undermines the effectiveness of the organisation as a whole. Many organisations rely on advisors and specialists, such as lawyers, IT specialists and market analysts, while managers often do not understand the work they do and the advice they give. Humans have a limit to what they are capable of managing but common sense does not always prevail, especially when complex solutions are chosen where simple solutions suffice.

The biblical story of the Tower of Babel warns us for the division of labour gone too far. After becoming specialised, people are very dependent on each other, while they do not understand each other any more. In this way a society disintegrates and therefore the story of the Tower of Babel is reflecting the situation we live in today. After the collapse of the city civilisation people scattered over the surrounding countryside (Gen. 11:8). Some ancient city civilisations have collapsed in a similar way [16]. An important theme in The Bible is Eden versus Babylon or rural living versus city life. The story on the Tower of Babel is part of this theme.

The building of the Tower of Babel may also reflect the effect of usury and credit in the financial system. The usury economic cycle is the principle cause of the division of labour and the concentration of people in cities. Credit amplifies the booms and busts spurred by usury. Most sky scrapers have been built in the years just before financial crises. Historically, skyscraper construction has been characterised by bursts of sporadic, but intense activity that coincide with easy credit, rising land prices and excessive optimism [8].

Like the story of the Tower of Babel, the story of the Titanic is a warning against hubris. The Titanic was deemed unsinkable and the demise of the ship on its maiden voyage seems not to be a coincidence. In 1898 Morgan Robertson wrote the novel *Futility*, which described the maiden voyage of a transatlantic luxury liner named Titan. Although it was touted as being unsinkable, it struck an iceberg and sank with much loss of life [9]. The name of the novel can be seen as an indirect reference to the Tower of Babel, which was a futile attempt of humans to become like God.

The sinking of the Titanic seems to be a prelude to the sinking of the SS Human Civilisation (SS stands for Sinking Ship) that is about to occur. Once again usury, hubris and over-reliance on technology are the principal causes for disaster. The iceberg will be exponential growth hitting the limits of the planet. On the Titanic many passengers and crew died unnecessarily because they were unprepared and panicking. A good plan for the future can prevent panic and will significantly reduce the fatality rate of SS Human Civilisation's appointment with destiny. Natural Money can enhance the development of local self sufficient communities and can greatly improve human living conditions in the centuries to come.

Appendix

Wörgl stamp scrip

In the past money systems without interest on a small scale existed in various forms and some of them were extremely successful. One of the most stunning success stories is the Wörgl currency [1]. On July 5th 1932, in the middle of the Great Depression, the Austrian town of Wörgl introduced a complementary currency. Wörgl was in trouble and was prepared to try anything. Of its population of 4,500, a total of 1,500 people were without a job and 200 families were penniless. The mayor Michael Unterguggenberger had a long list of projects he wanted to accomplish, but there was hardly any money with which to carry them out. These projects included paving roads, streetlights, extending water distribution across the whole town, and planting trees along the streets.

Rather than spending the 40,000 Austrian schillings in the town's coffers to start these projects off, he deposited them in a local savings bank as a guarantee to back

the issue of a type of complementary currency known as stamp scrip. The Wörgl currency required a monthly stamp to be stuck on all the circulating notes for them to remain valid, amounting 1% of the each note's value. The money raised was used to run a soup kitchen that fed 220 families.

Because nobody wanted to pay the holding fee, everyone receiving the notes would spend them as fast as possible. The 40,000 schilling deposit allowed anyone to exchange scrip for 98 per cent of its value in schillings but this offer was rarely taken up. Of all the business in town, only the railway station and the post office refused to accept the local money. Over the 13-month period the project ran, the council not only carried out all the intended works projects, but also built new houses, a reservoir, a ski jump and a bridge. The people also used scrip to replant forests, in anticipation of the future cash flow they would receive from the trees.

The key to its success was the fast circulation of scrip within the local economy, 14 times higher than the Schilling. This in turn increased trade, creating extra employment. At the time of the project, unemployment in Wörgl dropped while it rose in the rest of Austria. Six neighbouring villages copied the system successfully. The French Prime Minister, Eduoard Dalladier, made a special visit to see the 'miracle of Wörgl'. In January 1933, the project was replicated in the neighbouring city of Kirchbuhl, and in June 1933, Unterguggenburger addressed a meeting with representatives from 170 different towns and villages. Two hundred Austrian townships were interested in adopting the idea. At this point the central bank panicked and decided to assert its monopoly rights by banning complementary currencies.

Lignières-en-Berry

In 1956 a few people in Lignières-en-Berry started a revolutionary experiment. They issued vouchers of 100 French francs for 95 French francs [3] [4]. After four months the vouchers could be returned for 98 French francs. A notary saw to it that for each voucher 98 French francs were deposited into a bank account. If the vouchers were not returned, a stamp of 1 franc had to be bought to keep the voucher valid.

Many people took the money because there was three francs of profit to be made by buying vouchers for 95 French francs and returning them for 98 French francs four months later. By spending the vouchers for 100 Francs it was even possible to make a profit of five francs. People tried to spend the vouchers in the shops and the shopkeepers liked the currency because it brought them many additional customers, while it never did cost them more than 2% because the vouchers could be returned for 98 French francs. The shopkeepers also preferred to use the vouchers for payment.

Many people did not return the vouchers but bought the stamps to keep them valid. From the income of the stamps the cost of buying returned vouchers for 98 French francs could be covered. It did not take long before the currency of Lignières-en-Berry had replaced the French francs. The vouchers spread quickly and the French

authorities became alarmed. The vouchers became prohibited.

Chiemgauer

Chiemgauer is the name of a regional local currency started in 2003 in Prien am Chiemsee, Bavaria, Germany [6]. The Chiemgauer program is intended to promote local commerce. The Chiemgauer operates with a fixed exchange rate: 1 Chiemgauer = €1. Bills of 1, 2, 5, 10, 20, and 50 Chiemgauer are issued. To maintain an individual bill's validity a scrip corresponding to 2% of the banknote value must be paid every three months.

The Chiemgauer is intended to:

1. Employment creation: students, unemployed and volunteers are hired to work, earning some allowances.
2. Promotion of cultural, educational and environmental activities: the Chiemgauer system supports non-profits who work for such purposes.
3. Promotion of sustainability: organic food and renewable energy among others.
4. Strengthening the solidarity: enhancing the human relationship between local shoppers and businesses.
5. Stimulation of local economy: Chiemgauer retains purchasing power within the region better than the euro and favors local small businesses, stimulating transactions by the demurrage.

Chiemgauer, considered to be equivalent to the euro, circulates as follows within Prien and neighbouring towns:

- Non-profits: entitled to purchase 100 Chiemgauer at €97 and resell them at €100, thereby earning €3 to be spent for their own activities.
- Shoppers: exchange €100 for 100 Chiemgauer at a non-profit they support, allowing the non-profit to benefit from the preferential purchase price. Also, spend Chiemgauer at local businesses at face value, thereby helping both local non-profits and businesses without any further cost.
- Businesses: accept 100 Chiemgauer at face value and spend them for their own purchases or exchange 100 Chiemgauer into €95, losing 5% for commission but earning more by attracting Chiemgauer members to their products and/or services. Of this, €2 is devoted to administrative costs, and €3 replaces the original discount to the non-profit.

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