



Margrit Kennedy

A CHANGING MONEY SYSTEM

The Economy of Ecology

Graphic Illustrations by Helmut Creutz

Permaculture Publications

Steyerberg, 1991

The Monetary Problem

What is money? Let's take the good news first. Money is one of the most ingenious inventions of mankind. It helps the exchange of goods and services and overcomes the limits of the barter system, thereby, creating the possibility for specialization, which is the basis of civilization.

Why then do we have a 'money problem'? Here is the bad news! Throughout most of our recent history, *the flow of money has been based on the payment of interest from those who have less money than they need to those who have more money than they need.* As a consequence, those who need money pay a lot more than their 'fair share.'

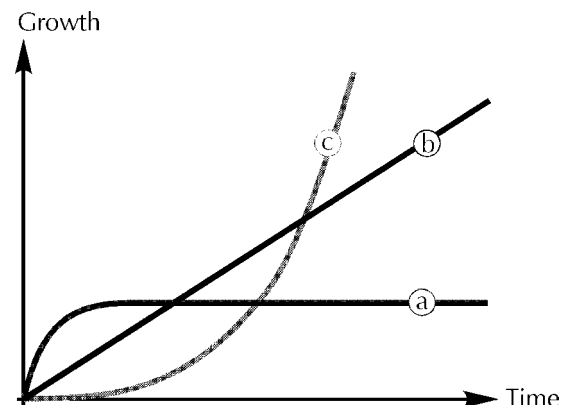
In order to understand why our monetary system works in a way which could be termed 'unconstitutional' in most nations, we must first understand *three generically different growth patterns* and how they relate to different types of growth.

Curve a in figure 1 represents an idealized form of *the normal physical growth pattern in nature* which our bodies as well as those of plants and animals follow. We grow fairly quickly during the early stages of our lives, then begin to slow down in our teens, and usually stop growing physically when we are about twenty-one. This, however, does not preclude us from growing further 'qualitatively' instead of 'quantitatively.'

Curve b represents a *mechanical or linear growth pattern*, e.g. more machines produce more goods, more coal produces more energy, etc. It is not so important for our analysis. It should be clear, however, that in a finite universe this growth pattern will create problems.

Curve c represents an *exponential growth pattern* which may be described as the exact opposite to curve a in that it grows very slowly in the beginning, then accelerates continually faster and finally grows in an almost vertical fashion. In the physical realm, this growth pattern usually occurs where things are out of order, where there is sickness, often leading to death. Cancer, for instance, follows an exponential growth pattern.

Basic Types of Growth Patterns



- a natural curve
- b linear curve
- c exponential curve

Figure 1

Constant Growth Curves

Based on interest and compound interest, our money doubles at regular intervals, i.e. follows an exponential growth pattern. **Figure 2** shows the time needed for our money to double: at 3% compound interest it takes 24 years; at 6% it takes 12 years; at 12%, 6 years. Even at 1% compound interest, we eventually end up with an exponential growth curve.

Difficulties in Understanding

Since through our bodies we have only experienced the physical growth pattern of nature which stops at an optimal size (curve a), it is difficult for human beings to understand the full impact of the exponential growth pattern in the material realm.

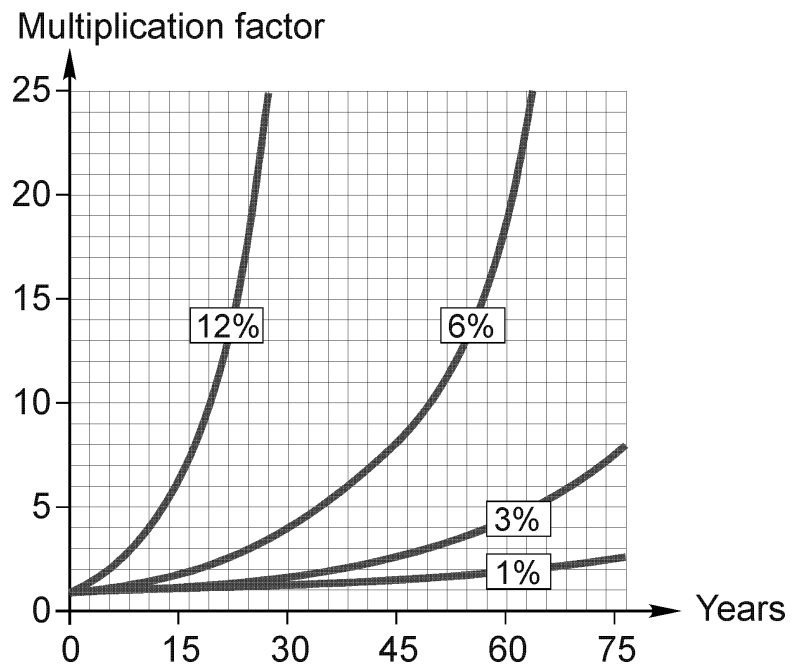


Figure 2

This phenomenon can best be demonstrated by the famous example which relates to our topic: one penny invested at the birth of Jesus Christ at 4% interest would have bought in 1750 one ball of gold of the weight of the earth. In 1990, however, it would buy 8190 balls of gold. At 5% interest it would have bought one ball of gold already in 1403 and by 1990, it would buy 2200 billion balls of gold of the weight of the earth. The example shows the difference 1% makes over a longer period of time. *This proves mathematically that the continual payment of interest and compound interest over a long period of time is practically impossible.*

Three Misconceptions about Money

A further reason why it is difficult for us to understand *the full impact of the interest mechanism on our monetary system* is that it *works in a concealed way*, which causes several misconceptions:

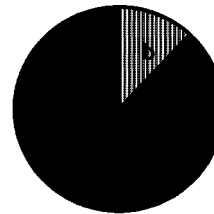
1. One common misconception is that we only pay interest when we borrow money. Therefore, if we want to avoid paying interest, we think all we have to do is to avoid borrowing money.

However, *every price we pay includes a certain amount of interest*. The exact proportion varies according to the labour versus capital costs of the goods and services we buy. This ranges from a capital share of only 12% in garbage collection, (because here the share of capital costs is relatively low and the share of physical labour is particularly high) to 38% in drinking water, up to 77% in public housing (**Figure 3**). *On the average we pay about 50% interest in all the prices of our goods and services*. In medieval times, people paid 'the tenth' of their income or produce to the feudal landlord. In this respect, they were better off than we are nowadays, where one half of each DM or Dollar goes to serve people who own capital.

2. Another misconception concerning our monetary system may be formulated as follows: Since everyone has to pay interest when borrowing money, we are all equally well off within our present monetary system.

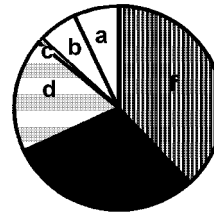
Not true again. There are indeed huge differences as to who profits and who pays in this system. Comparing the interest payments and income from interest in ten equal parts of 2.5 million households each in West Germany, **Figure 4** shows that 80% of the population pay more than they receive, 10% receive slightly more than they pay, and the remaining 10% receive about twice as much interest as they pay, that is the share which the first 80% have lost. This illustrates one important reason why 'the rich get richer and the poor get poorer.' In absolute figures, this amounts to a transfer of about 500 million DM every day from those who work to those who own capital in West Germany (1985).

Examples of the Amount of Interest within Normal Prices and Fees



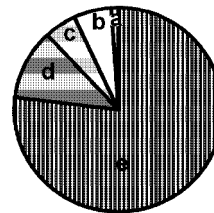
- 1 Garbage Collection Fees
 Example of the city of Aachen 1983
 a) Depreciation, fixed personnel and miscellaneous costs 88%
 b) Cost of interest on capital 12%
 100%

Fees for 100 l. garbage can: DM 194.-



- 2 Drinking Water Costs
 Example of a Northern German Water Supply Works 1981
 a) Energy costs 7%
 b) Plant maintenance 6%
 c) Water treatment 1%
 d) Personnel and fixed costs 18%
 e) Depreciation 30%
 f) Cost of interest on capital 38%

Price per cu. meter: DM 1,36



- 3 Cost of Rent in Public (Social) Housing
 Calculations of the Federal Office of Statistics
 a) Risk and Profit 1%
 b) Administration, running costs 5%
 c) Building maintenance costs 6%
 d) Depreciation 11%
 e) Cost of interest on capital 77%

Rent per sq.-meter: DM 13,40

Figure 3

Comparison of Interest Paid and Gained

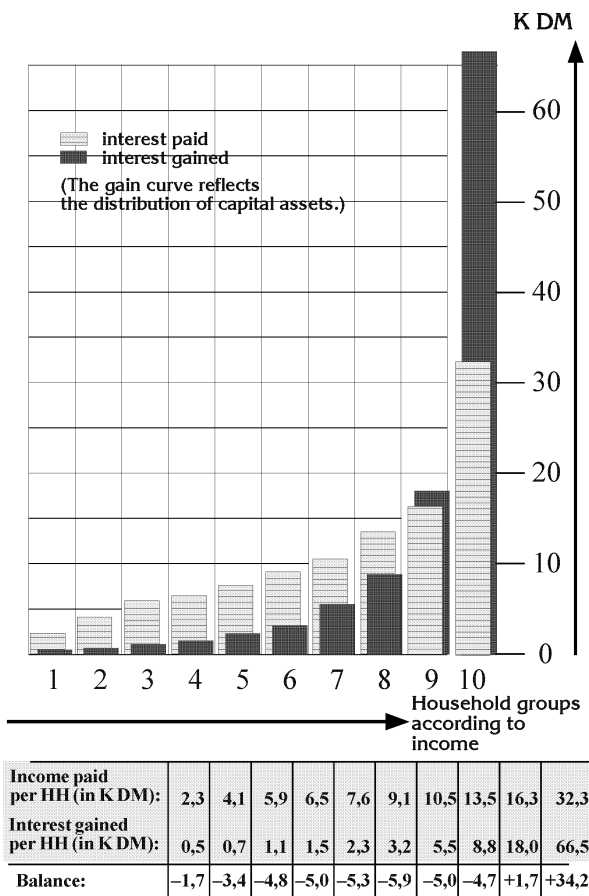


Figure 4

In other words, *within our monetary system we allow the operation of a hidden redistribution mechanism which constantly shuffles money from those who have less to those who have more money than they need: Thus, on the one hand, large amounts of money concentrate in the hands of ever fewer individuals and multi-national corporations and, on the other, Third World Countries will never be able to get out of debt in the current system, as by now they have to pay back more than three times the amount of what is loaned to them.*

The interest and compound interest mechanism not only creates an impetus for pathological economic growth but also works against the constitutional rights of the individual in most democracies. If a constitution guarantees equal access of every individual to governmental services — and the money system may be defined as such — then it is illegal to have such a system in which 10% of the people continually receive more than they pay for that service and 80% of the people receive less than they pay.

Many of the great political and religious leaders like Moses, Mohammed, Luther, Ghandi and most of the churches and spiritual groups throughout history have tried to reduce social injustice by prohibiting interest payments. They understood it as the main cause of social injustice. However, they did not come up with a practical solution to keep money in circulation. Thus, the archaic flaw in the system remained unchanged. The prohibition on interest payments among the Christian community by the Popes during the Middle Ages in Europe, for instance, just shifted the problem to the Jews. While the Jews were not allowed to take interest from each other, they could do so from the gentiles. If they took interest from each other they allowed a remission of debts every seventh year. Islamic banks which follow Muslim law are not allowed to take interest from their clients. Instead they become partners in the business to which they make a loan. Whether or not this is a better solution depends on the partners, but it certainly creates a more direct link between creditor and debtor.

In the Federal Republic of Germany

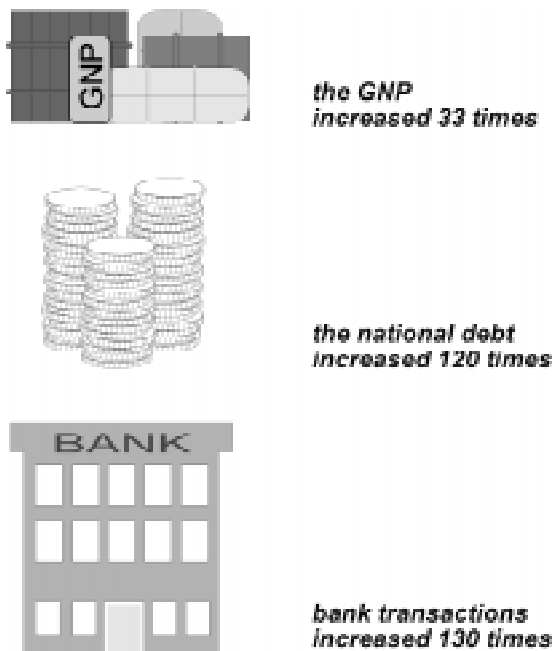


Figure 5

3. A third misconception relates to *the role of inflation in our economic system*. For most people, inflation seems like an integral part of any money system, almost 'natural,' since there is no country in the world without inflation.

Few realize that this is just another form of taxation through which governments use to overcome the worst problems of an increasing interest burden. Between 1950 and 95 the GNP in Germany increased 33 times national debt, however, 120 times (**Figure 5**). Since the largest borrower on capital markets is the government it pays the highest share of interest. *Obviously the larger the gap between increases in government income and government debt the higher the inflation needed*. Printing money enables the government to reduce its debts. This is another way of making those 80% of the people who pay more interest than they gain, pay even more, since they cannot withdraw their assets into 'inflation-resistant' investments like those who are in the last 10% income bracket.

Two Further Effects: Arms Race and Ecological Exploitation

Besides the social injustice of a constantly widening gap between the rich and the poor in industrially developing and industrialized nations alike, two further problems associated with the interest system need to be identified: the arms race and ecological exploitation of the earth.



1. The present concentration of money in the hands of ever fewer people or large multi-national corporations creates a *constant pressure for large-scale investments*, e.g. atomic power plants, huge dams for hydroelectric power, and arms. Seen from a purely economical angle, the politically contradictory behavior of the U.S. and Europe installing bigger and better weapons against Russia on the one hand, and sending butter, wheat and technological know-how to Russia on the other, made perfect economic sense: military production was one area where the 'saturation' point could be postponed indefinitely as long as 'the enemy' was equally able to develop faster and better weapons. And profits in the military sector were far beyond any profits made in the civil sectors of our economy. While capital investments in the latter often have had returns around 2-5% over the last few years, the military sector often averages returns around 50%.

2. A further problem may be seen in the vast field of ecological investment. Let us take an investment in solar collectors as an example. If they only allow a 2% return on our money, it would be economically unwise to invest in this sensible, ecological technology for preparing hot water, since in a bank it returns at least 6%. The bank in turn usually has to invest it in less ecological projects. *Therefore, as long as every investment must compete with the money making power of money on the money-market, most ecological investments, aimed at creating sustainable systems (i.e. stopping quantitative growth at an optimal level, see curve a Figure 1), don't have a chance.*

The Solution

One practical solution which would eliminate the problems caused by interest was formulated by a German merchant called Silvio Gesell in the beginning of this century. *Instead of paying people a reward (= interest) in order to bring surplus money back into circulation he suggested that they would have to pay a small penalty if they didn't. He proposed to use money as a public service instead as a private good.*

An Example

Between 1932 and 1933, the small Austrian town of Wörgl started one of the first model experiments which has been an inspiration to all who have been concerned with the issue of monetary reform, up to this day. Within one year, the 32,000 Free Schillings (i.e. interest-free Schillings) circulated 463 times, thus creating goods and services worth (32,000 x 463) over 14,816,000 Schillings. At a time when most countries in Europe had severe problems with decreasing numbers of jobs, Wörgl reduced its unemployment rate by 25% within this one year. The fee collected by the town government which caused the money to change hands so quickly amounted to a total of 12% of the 32,000 Free Schillings, which is 3,840 Schillings. This was used for public purposes and thus *no single individual gained by it, but the community as a whole*. In addition, the need for exchange determined the pace of circulation and not the fee. If the town would had borrowed the 32,000 Schillings on the money market they would have paid back three to four times the amount i.e. 96,000-128,000 Schillings over 20 to 30 years.



When, however, over 300 communities in Austria began to be interested in adopting this model, the Austrian National Bank saw its own monopoly endangered. It clamped down on the town and prohibited the printing of its own money.

Practical Possibilities Today

As 90% of all monetary transactions are just numbers in a computer, *the payment modalities of today would make a 'use-fee' on money technically a much simpler issue.* Everyone would have two accounts: one current account and one savings account. The money on the current account which is at the disposal of the owner continually would be treated like cash and lose as little as 1/2% per month or 6% per year. Anyone with more money in his current account than needed for the payment of all expenses in a particular month would be prompted by this small parking fee on money to transfer the amount not needed for some time to a savings account. From there, the bank would be under the obligation to pass this money on to those who needed it for a certain amount of time and, therefore, on the savings account it would not be debited with a fee.

By the same token, the money owner would not receive any interest on his or her savings account — but the money would retain its value. (As soon as interest is abolished, inflation becomes unnecessary — see above.) Equally, the person receiving credit would not pay interest, but a risk premium and bank charges quite comparable to those contained in every bank loan today. It amounts to about 1.5% of normal credit costs.

Thus, very little would change in practice. Banks would operate as usual, except that they would be more interested in giving loans, because they too would be subject to the same use fee that everyone else would have to pay, were they to sit on their money. Temporarily they might have to levy, or pay, a small regulation fee i.e. slightly more or less than 1%, depending on whether or not they had more money in savings accounts than they needed or whether they had liquidity problems. *In this case the fee would only serve as a regulatory mechanism and not as a wealth redistribution mechanism as interest does today.* In order to prevent the hoarding of cash, one additional technical aspect of the implementation of such a monetary reform would be to recall one particular series of banknotes once a year, without prior announcement.

The basis of this reform would be a fairly accurate adaptation of the amount of money created to the amount of money needed to handle all transactions in the exchange of goods and services within and without a given geographical area, region or nation. *Money would now follow a 'natural' physical growth pattern (curve a, Fig. 1) and no longer an exponential one. When enough money has been created to serve all transactions, no more would have to be produced.*

Prospective Results

Within the larger context of a global transformation of values and behavioral patterns as well as other changes such as land and tax reforms the change in our monetary system will hopefully assist *the switch from quantitative growth to qualitative growth.* As people would have the choice of leaving their money in a savings account where it would keep its value, or to invest it in a beautiful piece of furniture, an art work or a solidly-built house which equally would keep their respective values, they might well opt for those investments which would enrich their daily lives. Moreover, the more that lasting quality is asked for, the more it would be produced.



Thus we may expect a total revolution of values, which would almost certainly affect environmental issues. Investments in ecological technologies would be able to compete within the context of a sustainable way of life and 'stable' money, which just pays without making unnecessarily large profits. Thus, *ecology would soon become economically feasible.*

While interest nowadays is a private gain, the fee on the use of money would be a relatively small (see the example of Wörgl) public gain, which would enable to reduce the amount of taxes needed to carry out public tasks.

Even the volume of economic activities would be more easily adjusted to real needs. Since high capital returns in order to pay off interest would not be needed any more, the pressure for overproduction and overconsumption would be considerably reduced. Prices could be reduced by the average 50% which now cover capital costs. In theory, 80% of the people would only need to work half the time in order to keep the same standard of living. The last 10% of the people who now are able to live off their interest would not lose their money. They would, however, stop earning money through money and start to live off their capital unless they invest it in business ventures.

The two critical questions are: will those who profit from the system now understand that the branch on which they are sitting grows on a sick tree and help to plant a healthy one before the collapse of the old one? Or, will those who pay too much understand soon enough that there is an alternative for change and that they must work together to implement it? At this point in time, the introduction of a new cooperative monetary system could create a win-win situation for everyone. It could help to develop, finally, a sustainable world economy.

Reference

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