

# Monetary Growth



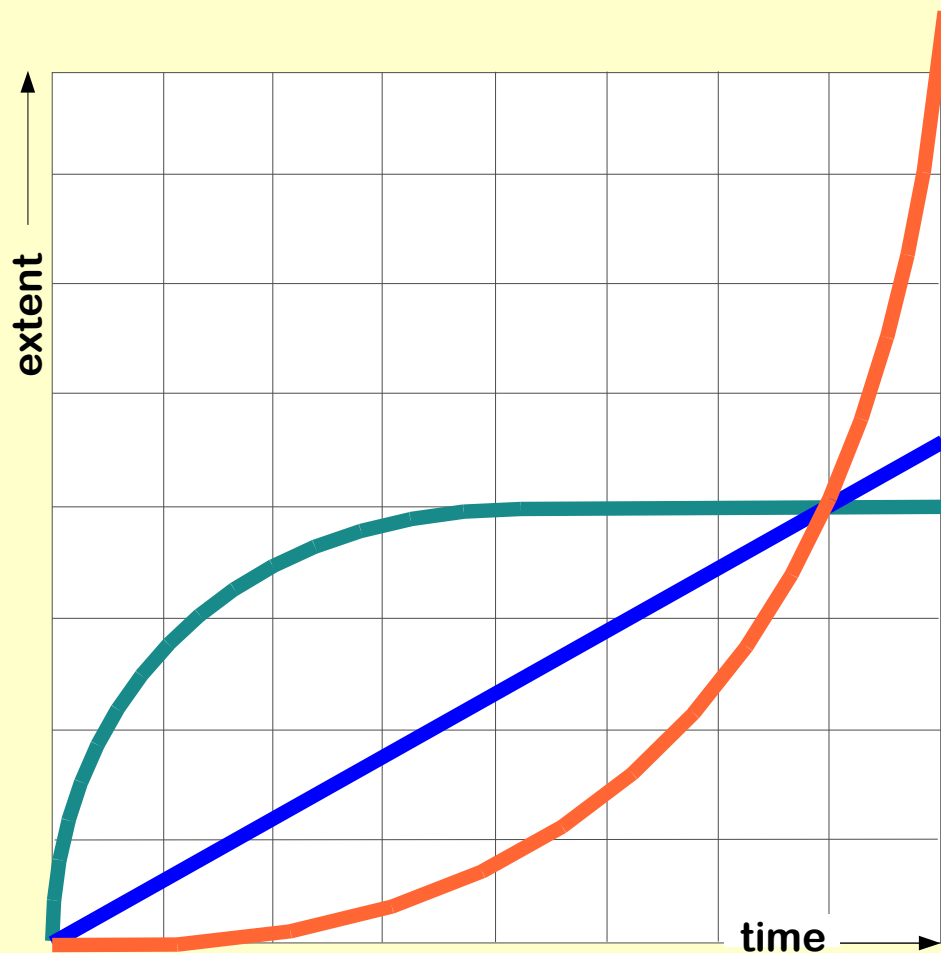
**Idea & graphs:  
Helmut Creutz**

**Realization:  
Robert Mittelstaedt**

This is the scenery of a beautiful summer's day. The sun is shining brightly, trees are fully clothed in green, people play on the lawn and the church tower in the background benevolently watches the scene. Everything is in perfect harmony. Trees don't grow any more when they have reached their size, adult human beings stop growing physically, while they sustain their life for unlimited mental and spiritual growth. And even the man-made church tower has once stopped to grow after having reached its height.



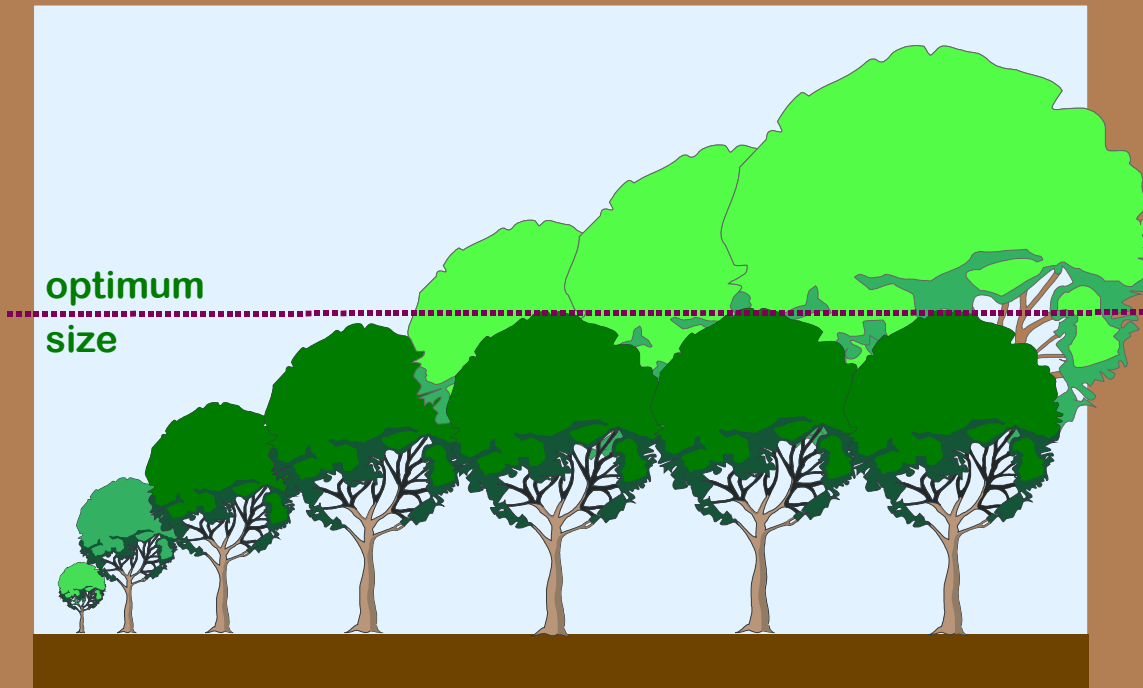
In the economy however, growth has a completely different meaning. So, let us first have a look at different kinds of growth.



The **green line** shows a rapid growth in the beginning which stabilizes after a while. Babies and children have pretty high growth rates which, as time goes by, become slower and at the age of around 20 man stops growing physically.

The **blue line** with a steady growth rate looks simple, but in a limited environment it is not possible. Finite space does not allow steady influx. For instance, if people were continuously entering a restaurant, it would soon be crammed full. This is true for all limited spaces.

The **third line** starts slowly and harmlessly but then it accelerates and shoots up. It can only collapse in the end because of the natural law we have mentioned about the borders of space. This is even more true for accelerated growth; the borders of space will be reached faster.



There is yet another aspect concerning organisms. An organism can only remain stable, if all its parts grow in the proper proportion to the whole. If the crown of a tree grows faster than the rest, the trunk and roots would not be able to support it and the tree would die.

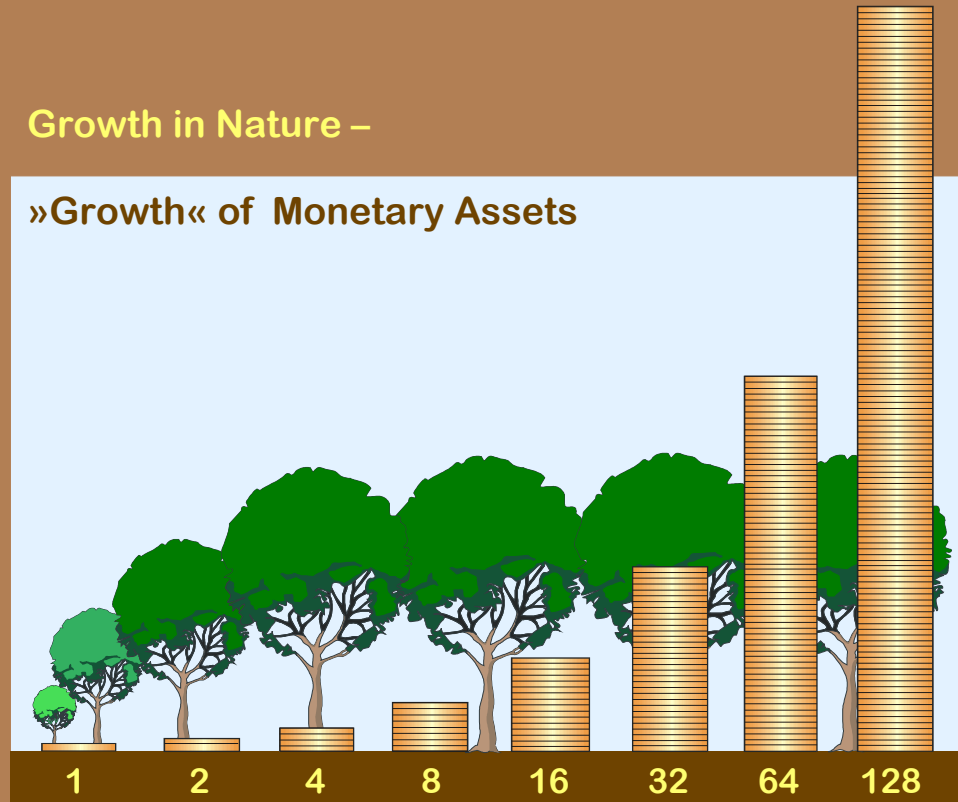
Considering these let's summarize the...

# Rules of Growth

1. In a confined space there can be no limitless growth.
2. For all sound and natural growth there is an optimum upper limit.
3. Any part of a healthy organism cannot grow faster than the whole.
4. All developments which violate these natural laws are bound to collapse.

## Growth in Nature –

### »Growth« of Monetary Assets

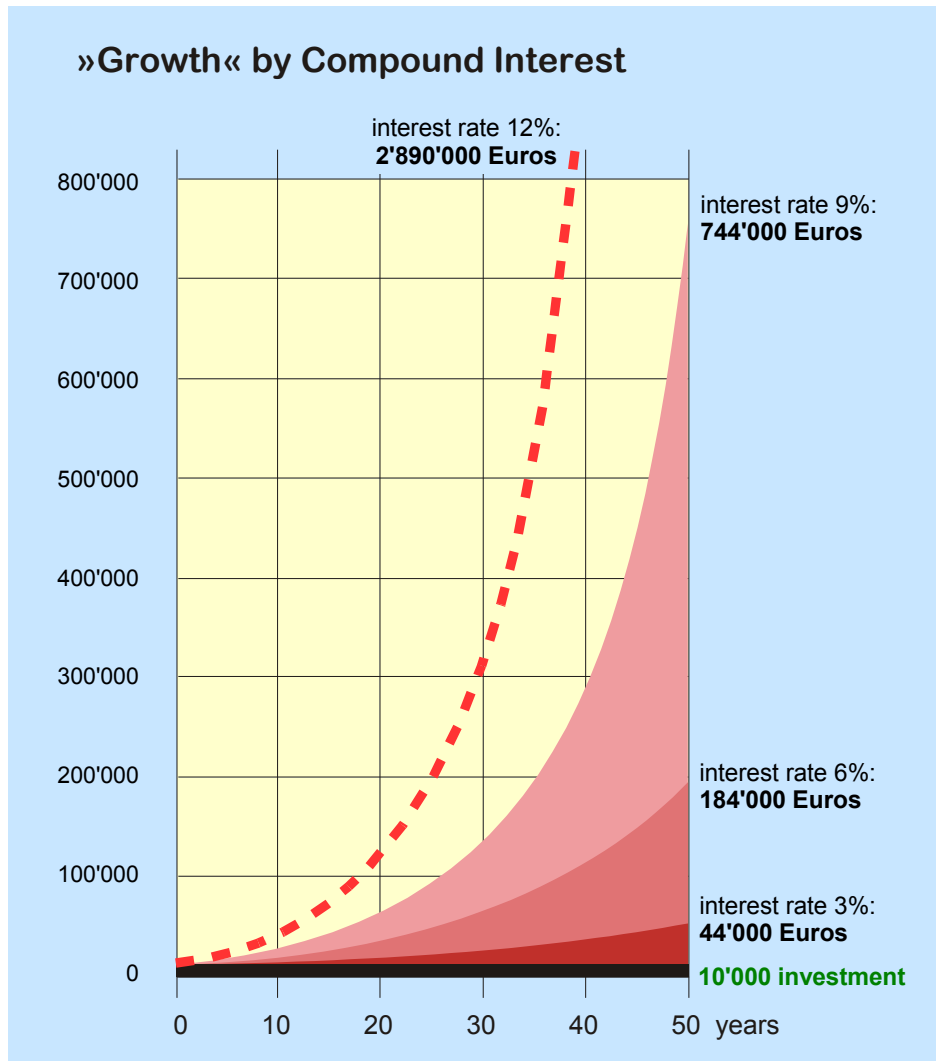


These rules are not only valid for biological organisms in nature, but also for the economy because it is a man-made organization, a super-human organism, so to speak, that is embedded in the laws of nature. It has to take in account the finiteness of living space and resources. Yet, there is a part in economic processes that breaks the proportion of the whole. The development of monetary assets is quite similar to the red growth curve in the first diagram. It is a growth by doubling in equal periods of time, which in the end shoots up and inevitably leads to collapse.

## What is the basic mechanism for the growth of monetary assets?

For example, somebody has an amount of 10,000 Euros that he doesn't need for the time being - the black bar at the bottom. If he keeps this sum in a box under his bed, the amount remains the same, no matter how long he keeps it there.

If he deposits these 10,000 Euros, Dollars or any other currency on the savings account of a bank at 3% interest, the amount will be four times as big after 50 years. If he manages to get 6% instead of 3, the effect does not simply double but it becomes 4 ½ times as big. And again 3% more results in an amount which is 74 times bigger than the original investment. We can conclude from this, that small changes in high interest rates have much more dramatic consequences than at low levels. An increase from 1% to 2% is almost negligible, but an increase from 9% to 10% has enormous effects in the development.









A fictitious example might make it more conceivable what exponential growth means. Which job offer would you choose?

The first offer proposes 1000 Dollars per week. No bad pay, is it. The proposal of the second offer consists of 1 cent in the first week, 2 cents in the second, 4 cents in the third, 8 cents in the fourth week aso. - every week he receives the double amount of the previous week. Someone who makes his decision in favor of this offer might be called nuts.

After 12 weeks Mr A has already earned 12'000 Dollars, while Mr B has only earned 41 Dollars. In the 20th week however, Mr B has already earned 10'500 \$ and just a week later he has attained Mr A's level. After 26 weeks - that is half a year later - the first one has earned 26'000 Dollars and the second 671'000 Dollars.

If the experiment runs 39 weeks - that is three quarters of a year, Mr B would already have earned 5.5 Billion Dollars and after a whole year, he would have earned 45'000 Billion Dollars - about 22 times the annual Gross Domestic Product of Germany!

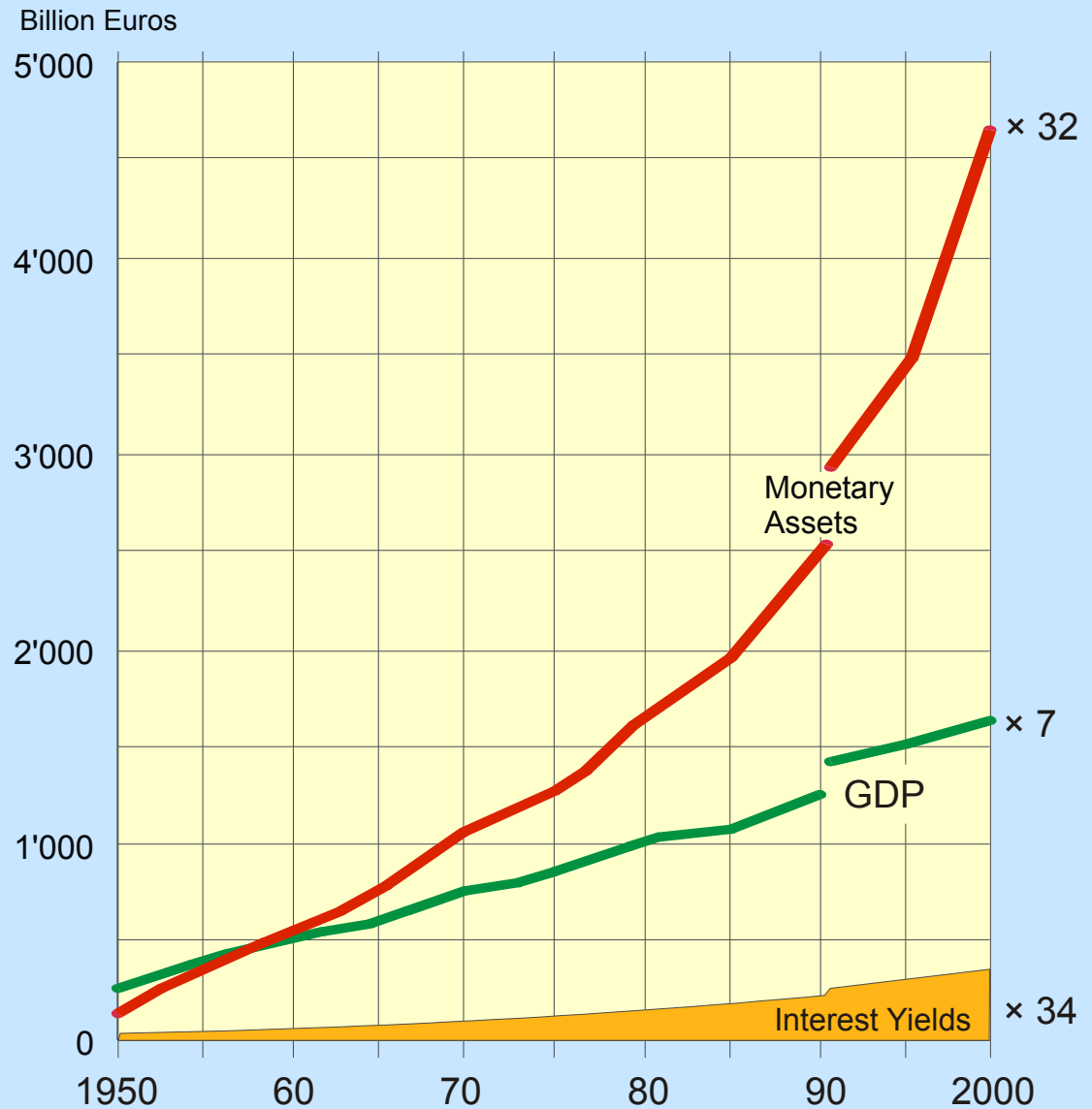
	Job Offer A	Job Offer B
		
<b>Total Income</b>		
after 1 <sup>st</sup> week	1'000 \$	0.01 \$
4 <sup>th</sup> week	4'000 \$	0.15 \$
8 <sup>th</sup> week	8'000 \$	2.55 \$
12 <sup>th</sup> week	12'000 \$	41 \$
16 <sup>th</sup> week	16'000 \$	655 \$
20 <sup>th</sup> week	20'000 \$	10'500 \$
21 <sup>st</sup> week	21'000 \$	21'000 \$
	<b>Job Offer A</b>	<b>Job Offer B</b>
		
<b>Total Income</b>		
after 21 <sup>st</sup> week	21'000 \$	21'000 \$
24 <sup>th</sup> week	24'000 \$	168'000 \$
26 <sup>th</sup> week	26'000 \$	671'000 \$
39 <sup>th</sup> week	39'000 \$	5.5 Bn. \$
1 whole year	52'000 \$	45'000 Bn. \$



Of course this is an exaggerated example, so, let's have a look at real figures now: the development of monetary assets and debts in comparison with Germany's economic output. Monetary assets and debts are identical figures, because monetary assets are defined by lent out money, therefore they are equal with debts.

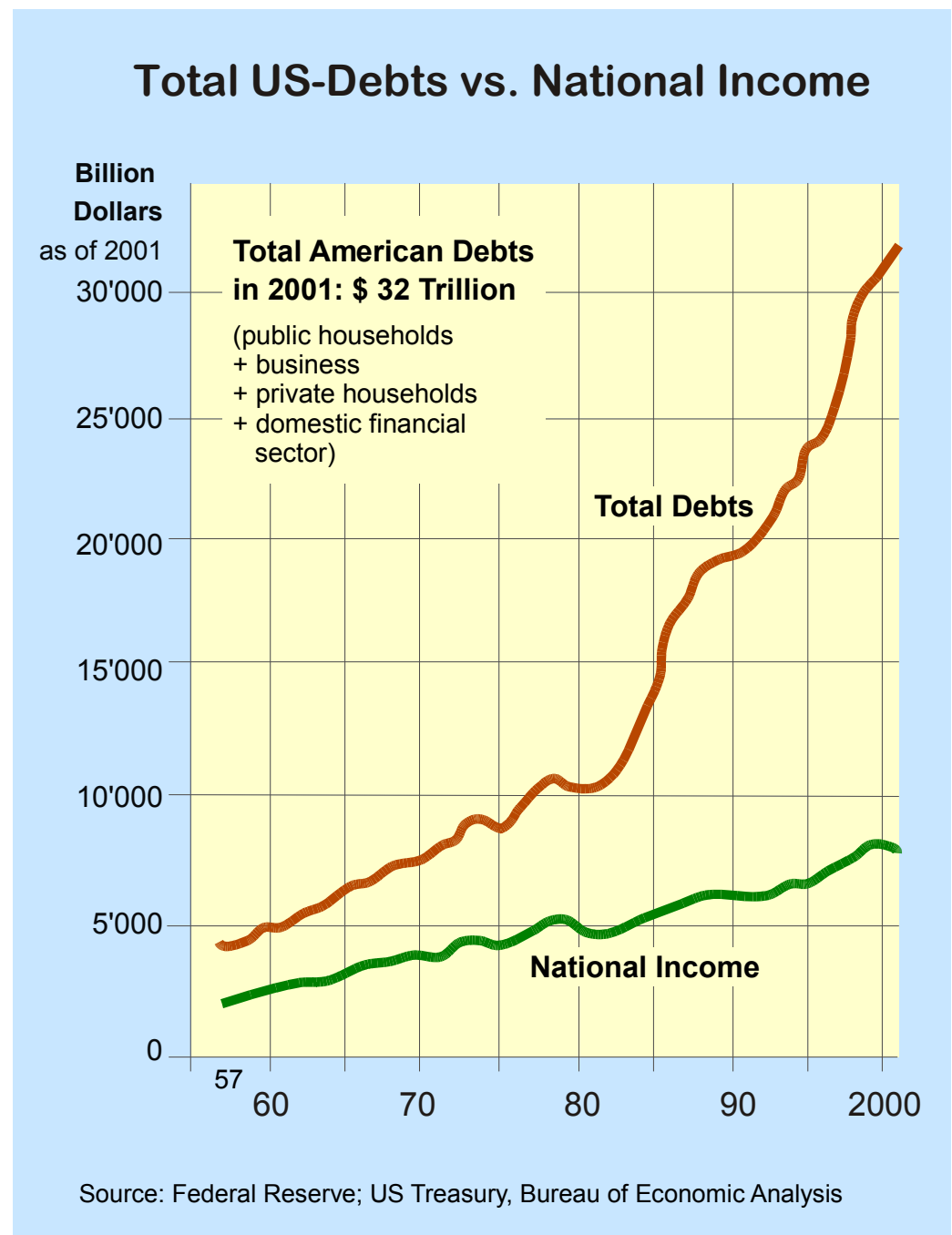
In 2000 the **national product** (the green line) is seven times as high as in 1950 in real, inflation-adjusted figures. 7 times as much means: we produce and consume 7 times more than in the 50ies. And we throw away 7 times as much. **Monetary assets**, however, (the red line in the graph) have climbed up to an amount 32 times as high. The exponential tendency of this curve becomes more evident the older the economy becomes, because more and more people are capable of putting their interest returns on top of their savings which in the beginning is not so easy.

## Monetary Assets and Gross Domestic Product Germany

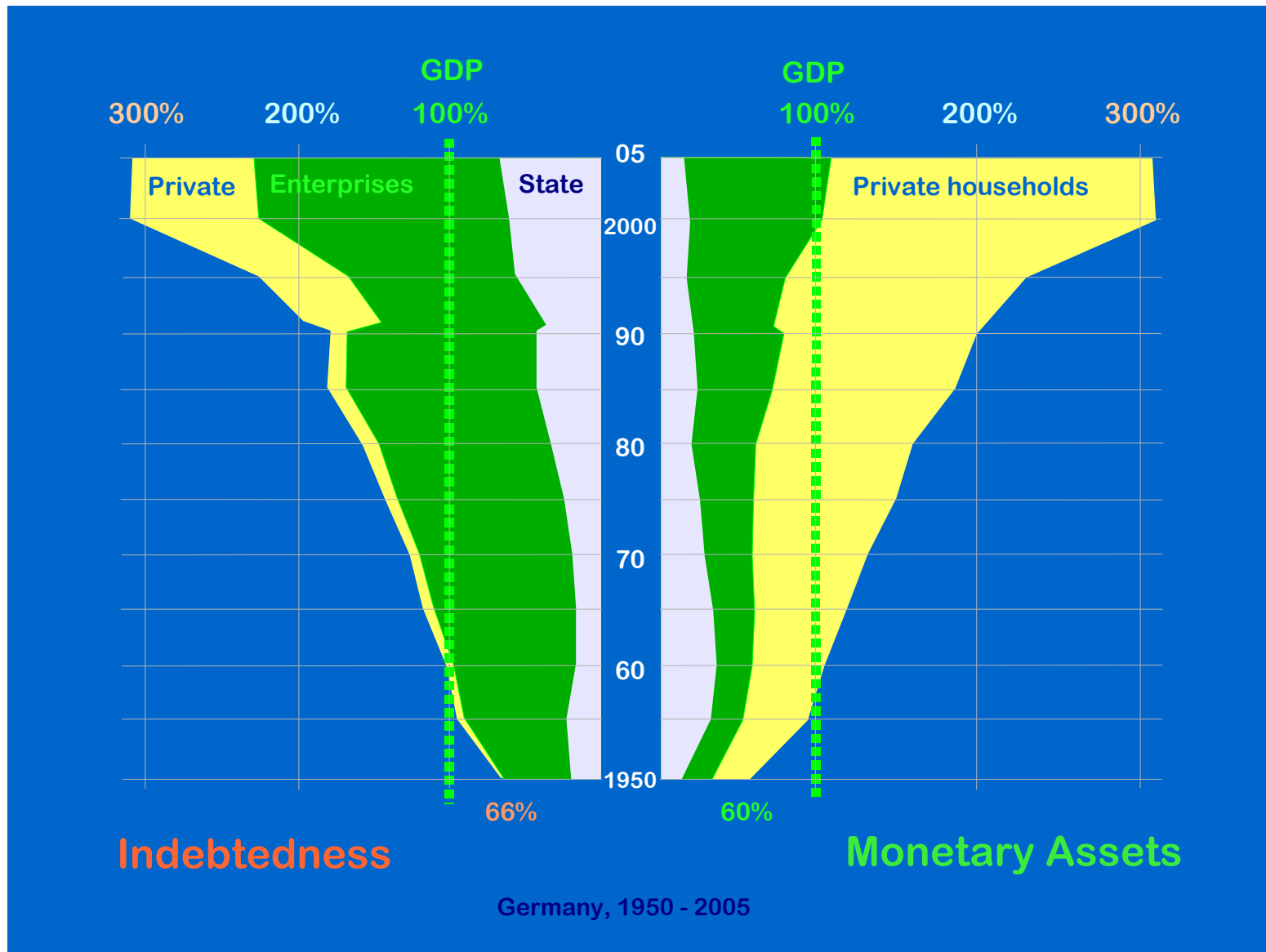


Rising debts and assets also mean continuously increasing interest flows. Therefore, we have to try to ever increase our economic output in order to avoid the problem of monetary assets and debts running out of proportion with the economic performance. This is getting less possible in the course of time because interest revenues grow faster than the economic output.

The German situation is neither unique nor is it an exception. It's the rule at least in all advanced nations, like for instance here in the United States.



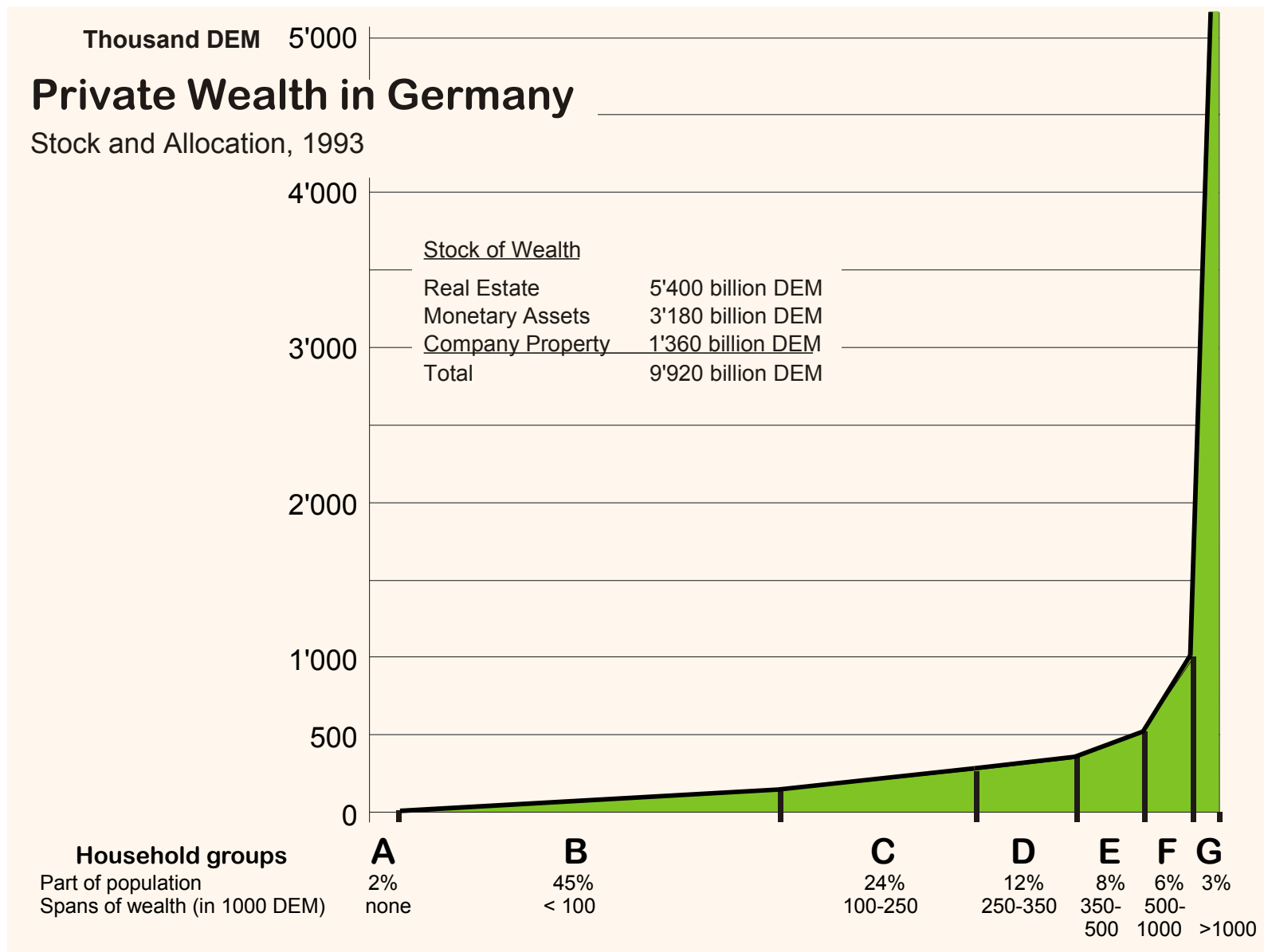
Now, who are the owners of monetary assets and who are the debtors? Statistics distinguish three sectors: the state, enterprises and private households. In this graph the relation is expressed in per cent of the Gross Domestic Product.



The state is the biggest individual debtor in the economy, but it is not the only debtor. In the first decade after the war, the state managed to build up a considerable fortune on the right side while keeping the indebtedness on a rather low and even decreasing level. The state which had about one third of all assets in the beginning, has become poorer and poorer since 1960 and since the 70ies, debts are continuously on the rise. Today the state holds only about 6% of the total of assets.

The second sector concerns enterprises. While enterprises had built up higher assets, the indebtedness developed much faster. If money was hoarded it would disrupt the circulation and cause gaps in the supply-and-demand-cycle. Therefore, monetary savings have to be fed back into the economy via loans, otherwise the economy would be jeopardized by a deflationary recession. However, due to the mathematical law of compound interest monetary assets and debts must grow. And if the state refrains from making debts, then someone else has to shoulder the burden. The increase of indebtedness of the enterprise sector was particularly strong between 1991 and 2005.

The largest increase in monetary assets on the other side had the private households which now hold 2/3rds of all assets. In principle this would be appropriate because private households stand for those who work and have a rightful claim for the biggest share. By the way, the apparent sudden jump of private indebtedness since 1991 was not caused by a dramatic event in the economy but is only due to a different method of processing statistical data.



The question is of course: how are these fortunes divided? This can be seen in this graph. All private wealth is listed here - real estate, monetary funds, capital equipment of companies.

Monetary assets make about one third, 32%, and more than a half consists of real estate. The majority of people don't possess real estate. All real estate is owned by about one fourth of the population. The total sum of wealth is quite considerable and amounts to 9'920 billion German Marks in 1993 or expressed in Euros 4'960 Billion. A survey is carried out every five years and the allocation of wealth shows interesting results.

There are different groups of households with the labels A, B, C, D, E, F, G. The first two groups A and B stand for about half of the population but they own only less than 10% of the total wealth.

The major part of wealth concentrates on the two last groups with a share of about 50%. Half of the wealth is in the hands of 10% of the population and the other half in the hands of 90% of the population. If one considers that the top of the graph ends at 5 Millions, the wealth column of a billionaire would be 200 times as high as the highest column in this graph. Of course, billion columns are very thin, but by their very height they are quite relevant.

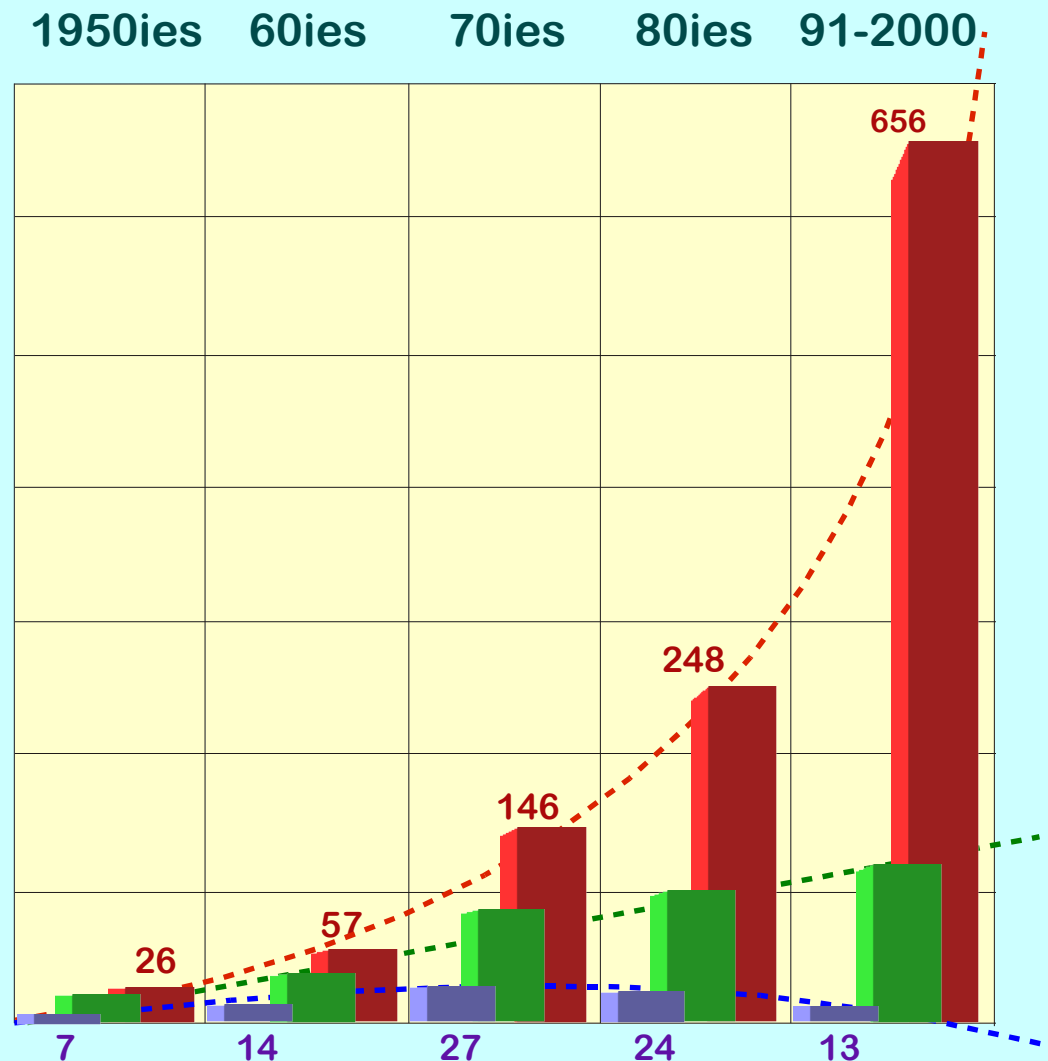
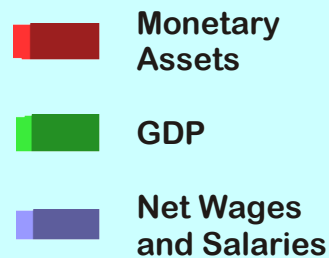
The following graph shows a comparison of growth rates during the last 5 decades in the sectors: monetary assets, gross domestic product and net wages. In the first two decades the relation of increase between net wages and monetary assets was about 1:3, in the meantime it has climbed up to 1:50. Since the growth of the national product is only nearly linear, net wages have fallen back since the 80ies.



They still have grown but with ever smaller growth rates. That means that the working population is less and less participating in sharing the results of the economic output and its increase. On the other side, monetary assets gain the more. Why is this development of monetary assets so dramatic? Since from a macro-economic view monetary assets and debts are identical figures, they cannot but grow at the same pace. Because, all savings that someone puts aside from his income cannot only be lent out, but they must be borrowed by somebody else in order to close the monetary cycle. Otherwise the money would be missing in circulation and arouse a deflationary recession. That's why all surplus money has to be fed back into the economy. This detour via loans, however, causes an ever bigger volume of interest flows.

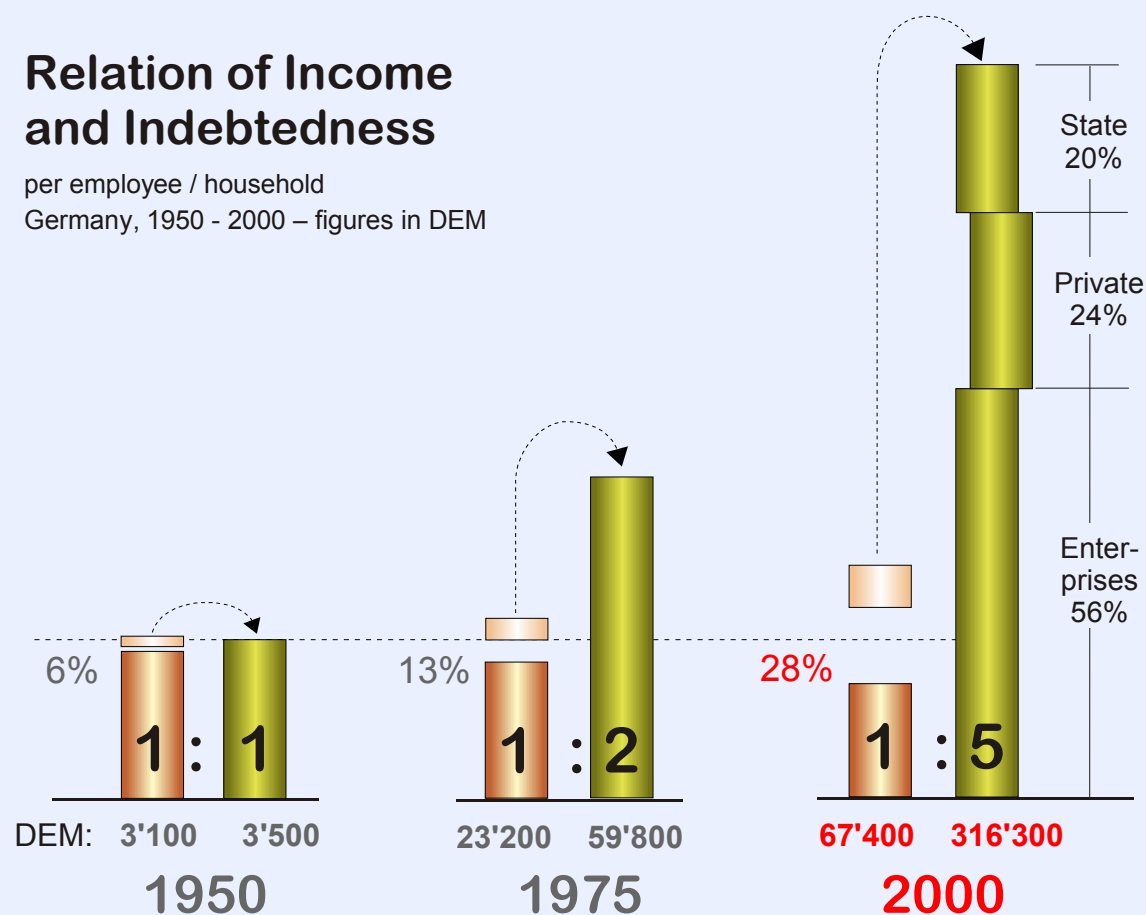
## Growth Rates in Germany

1950 – 2000  
in billion DEM



## Relation of Income and Indebtedness

per employee / household  
Germany, 1950 - 2000 – figures in DEM



In order to make it more comprehensible what this means for an individual participant in the economy, we can divide the sum of all debts by the number of participants and compare this share with his annual, disposable income.

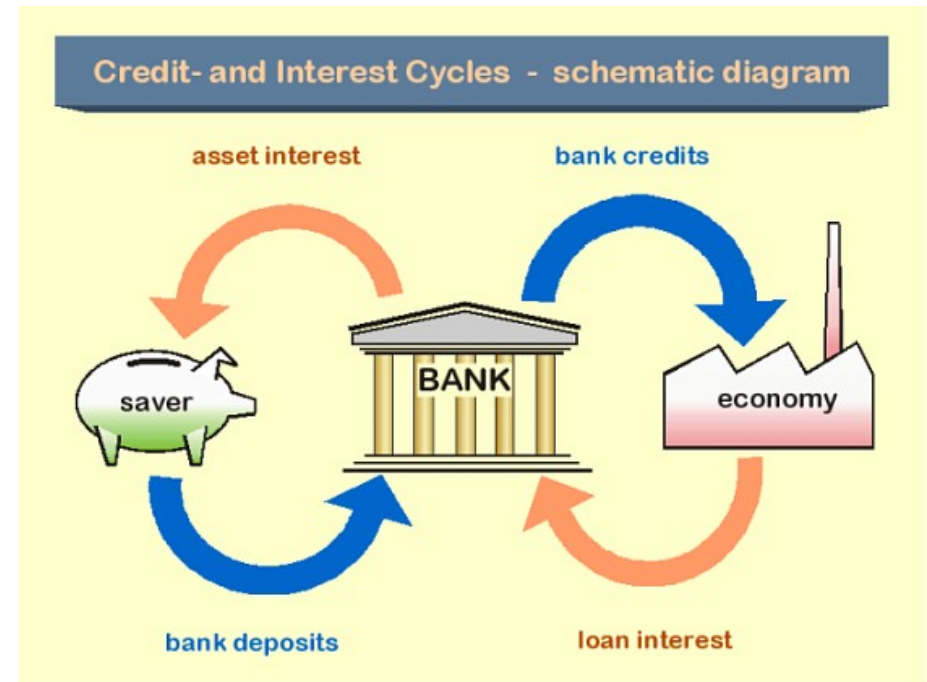
The income columns for the given three years are kept equally high, although the absolute figures are quite different. They are given below the respective columns. In this way, the ratio between income and debt share can be compared. In 1950 it was 1 to 1, in 1975

the debt share was twice as high as the income and in 2000, the ratio between income and debt share was 1 to 5.

In 1950 the share of interests for these debts was 6% and an average worker had to work for it about 3 weeks per year without having borrowed money on his own. The larger part of this interest share goes on top of monetary assets and by lending it out again it increases the column of debts. In 1975 this share for servicing the debts went up to 13%, in the year 2000 it was 28% and an average worker had to work more than 3 months for it.

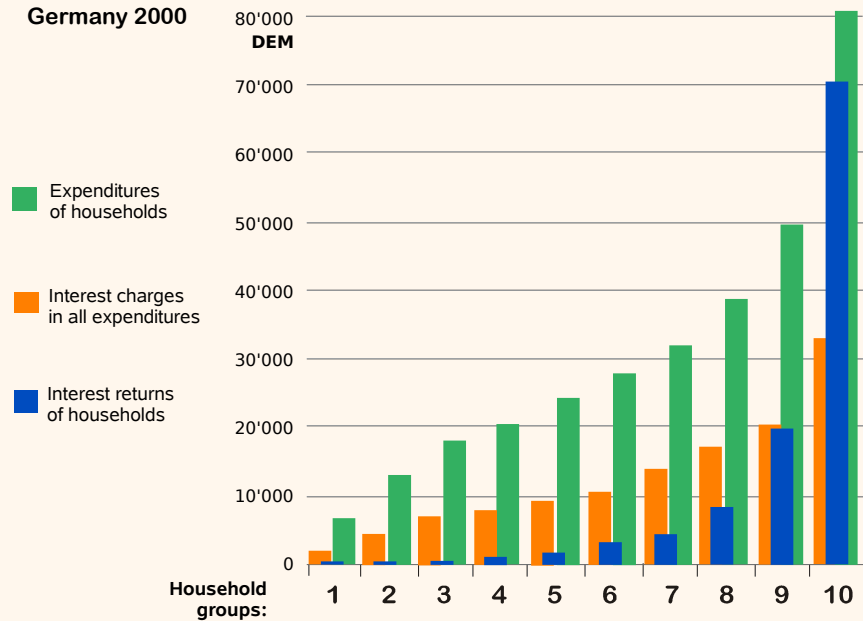
It has to be mentioned here, that these figures can be backed by respective data. In fact however, the interest share in prices is higher, because interest for the entrepreneur's own capital, especially tangible capital, is not included. This can only be estimated since no reliable statistical data are available. Today, we can assume an interest share in prices of about 40-45%. Of course these are average figures. Depending on the kind of produce or service, these shares can differ within a broad range. They are very low in services that do not require much capital and they are very high in rents for real estate and in produces from processed mineral oil for instance, where the interest share can amount up to 70% and more. Well, everybody is delighted about getting interests credited on his or her savings account at the bank. But no one seems to ponder about the question, where those interest payments come from.

The largest part of savings deposited in banks is lent out to enterprises in the economy and another large part to the state. The debtor pays interest to the bank and after deduction of the bank margin it credits this interest on the savings account of the creditor. However, the interest revenues of the creditor, come from some debtors who have to earn the interest. Every entrepreneur calculates the prices for his products on the basis of all his costs for staff, raw material, maintenance of machines, rent for ground and buildings a.s.o. - and the costs of borrowed capital! The entrepreneur has to collect the amount of his costs through the price of his produce. In the end it is the consumer who has to pay for all these costs. And the vast majority of consumers have to work for it and thus they also work for the servicing of debts that are not their own. Hence, the assumption that we are only paying interests for our own loans is a misconception. Everyone pays an interest share of about 40-45% with every spent Euro, on the other hand most people receive interest returns through their own savings. The distribution of interest payments depends on expenditures. The revenues from the interest pool, from where the money flows back, depend on the fortune that one possesses and they concentrate on a minority.



## Winners and Losers in the Game of Interest Redistribution

Germany 2000

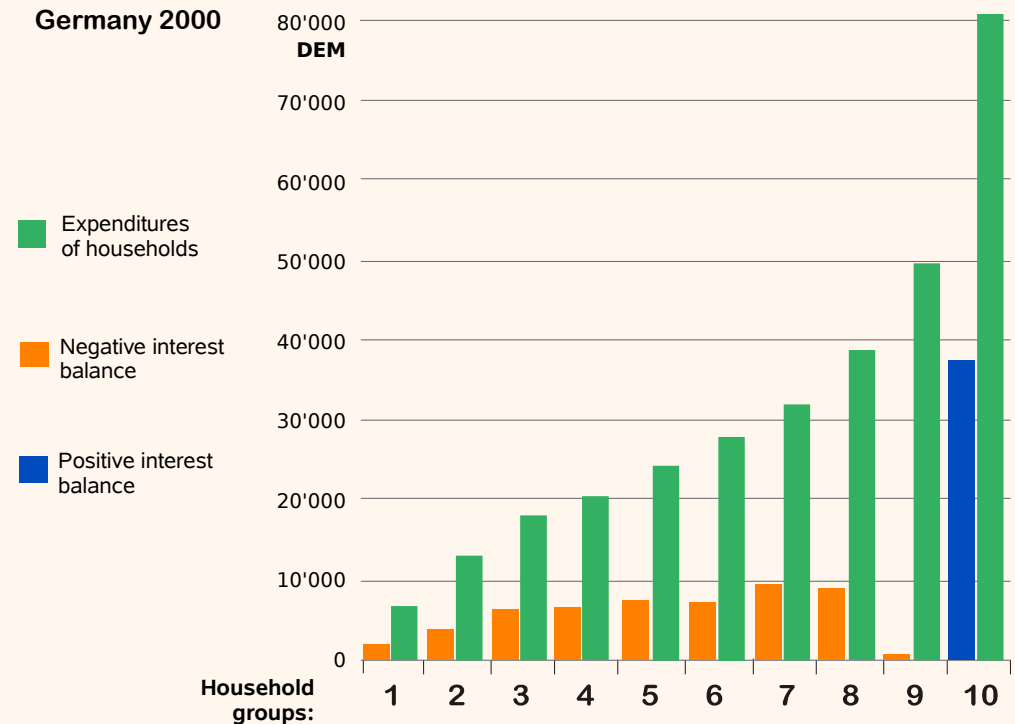


Drawing the balance between interest payments and interest returns shows that the first eight groups have a negative balance - they pay more than they get back. In the ninth group payments and returns are almost even, they are neither losers nor are they winners in the game. The big winners are found in the tenth group where the losses of the first eight groups turn into profits. The surplus in this group, the balance of interest payments and revenues, corresponds to the losses of the majority of the population. Or expressed in concrete terms, there is a continuous net flow of interest payments from the majority of the population to a small minority, which already possesses a large fortune.

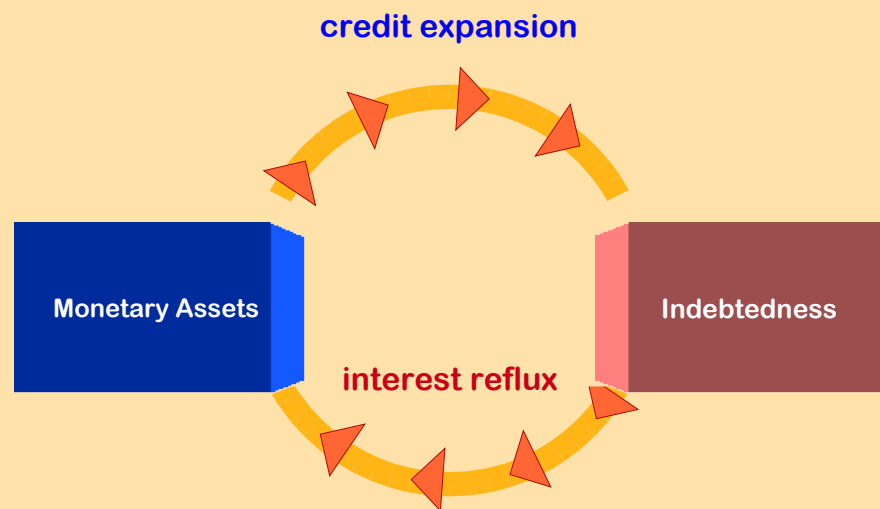
The question arises now who is winner and who is loser in this game of interest redistribution, because dividing macro-economic figures by the number of households gives an average idea only which may be far away from individual experience. In order to get a more differentiated picture the number of total households was divided into ten groups of 3.8 million households each. Group 1 comprises the poorest households with the lowest income and no or very little property and group 10 encompasses the richest households. The green columns show the **expenditures** for consumption that the members of the various groups can afford from their disposable income. The **orange** columns represent the interest share with an estimated proportion in prices of 40% in this graph. The **blue** columns, finally, represent the interest returns in the various groups of households.

## Winners and Losers in the Game of Interest Redistribution

Germany 2000

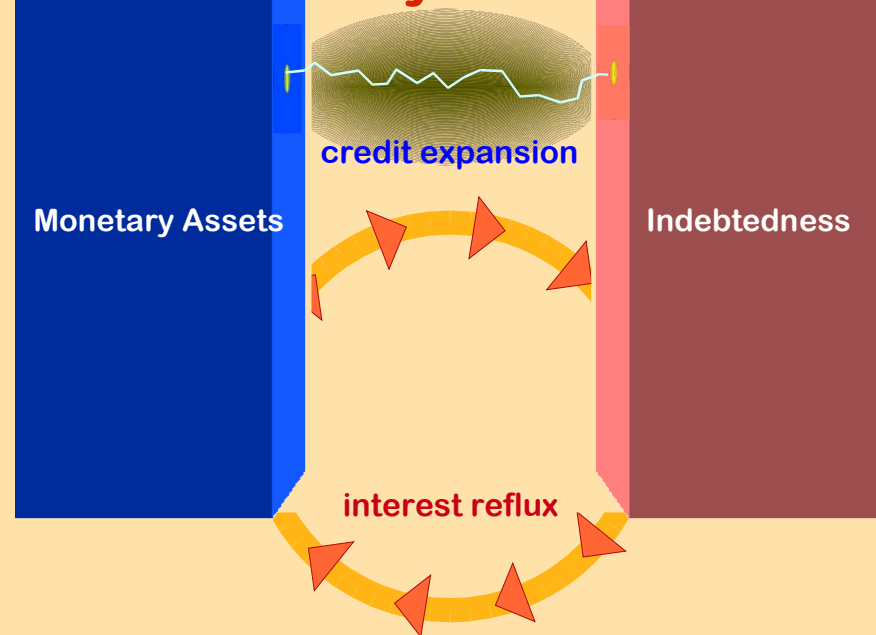


## The Monetary Vicious Circle



These mechanisms of interest redistribution constitute a veritable vicious circle. Expansion of credits to the economy leads to higher interest reflux on top of monetary assets, which again necessitates further expansions of credits and indebtedness.

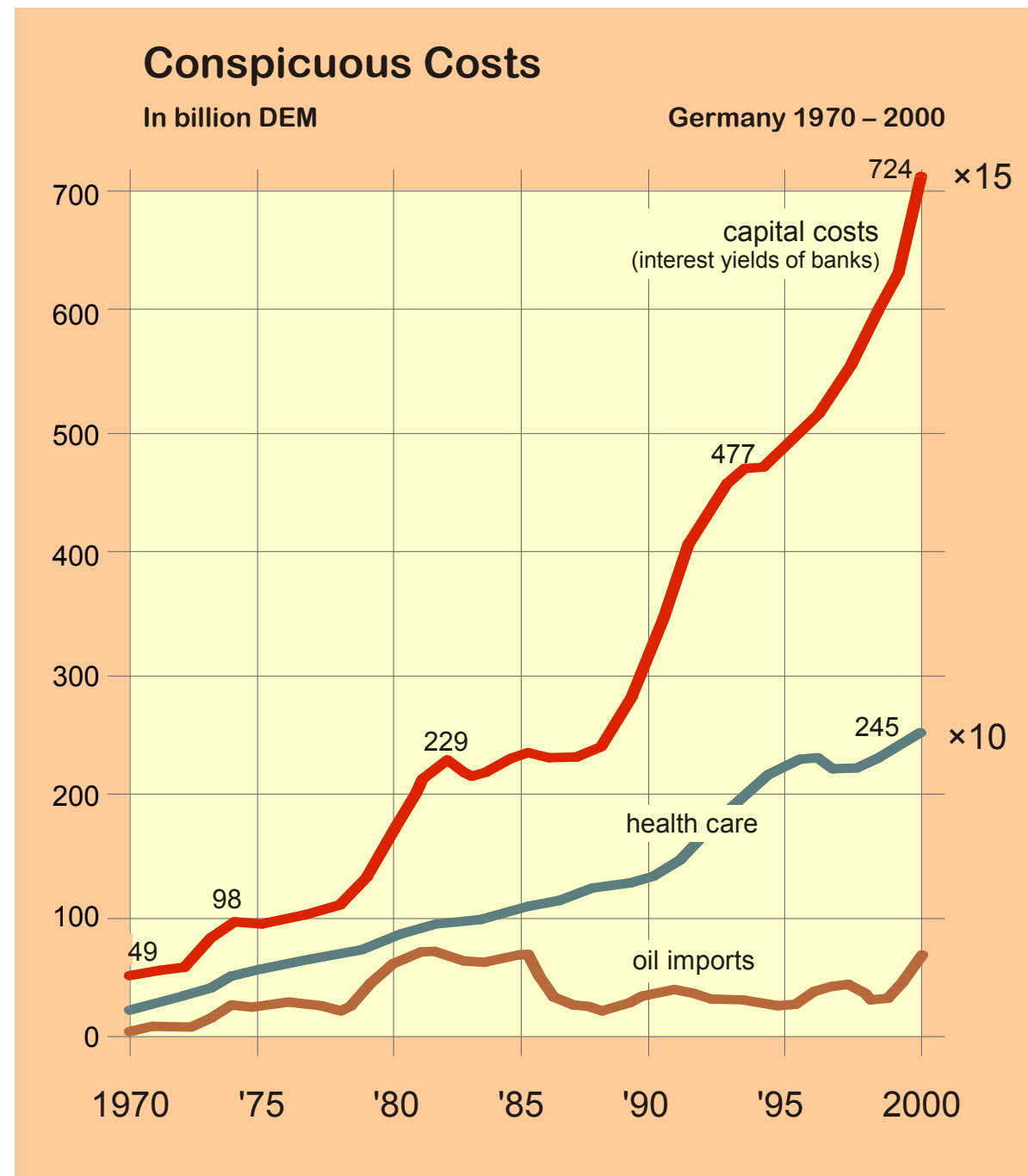
## The Monetary Vicious Circle



Cyberneticians call this a circuitry with positive feedback. Such a circuitry accelerates itself, it is self-destructive and can only collapse in the end. And such is the basic construction of our money system.

Now, this is an interesting graph which tells us something about the public awareness of the problems in the sphere of money. Every now and then these two topics had dominated the mainstream media: the price of mineral oil and the costs for health care. Of course, for an economy that so much depends on mineral oil as ours and on healthy workers these are certainly important items. Some may still remember the oil price shock at the end of the 70ies. Since that time every rise in oil prices was sensitively registered by the public opinion with great excitement. And the cost explosion for health care, which was noticed at the beginning of the nineties, has become a never ending story in the media. Of course, a ten-fold increase of health costs is a tough nut to crack.

Compared to the excitement caused by these costs for the economy it is surprising, that the third development of costs, the capital costs or interest payments had hardly ever become a topic in media. They never aroused public excitement, although one could imagine, that the economy creaks under a burden, that is more than twice as high as costs for health care and oil price together!





The Swiss Professor Hans-Christoph Binswanger is one of the very few economists who recognized the connection between environmental degradation and the monetary system and he said:

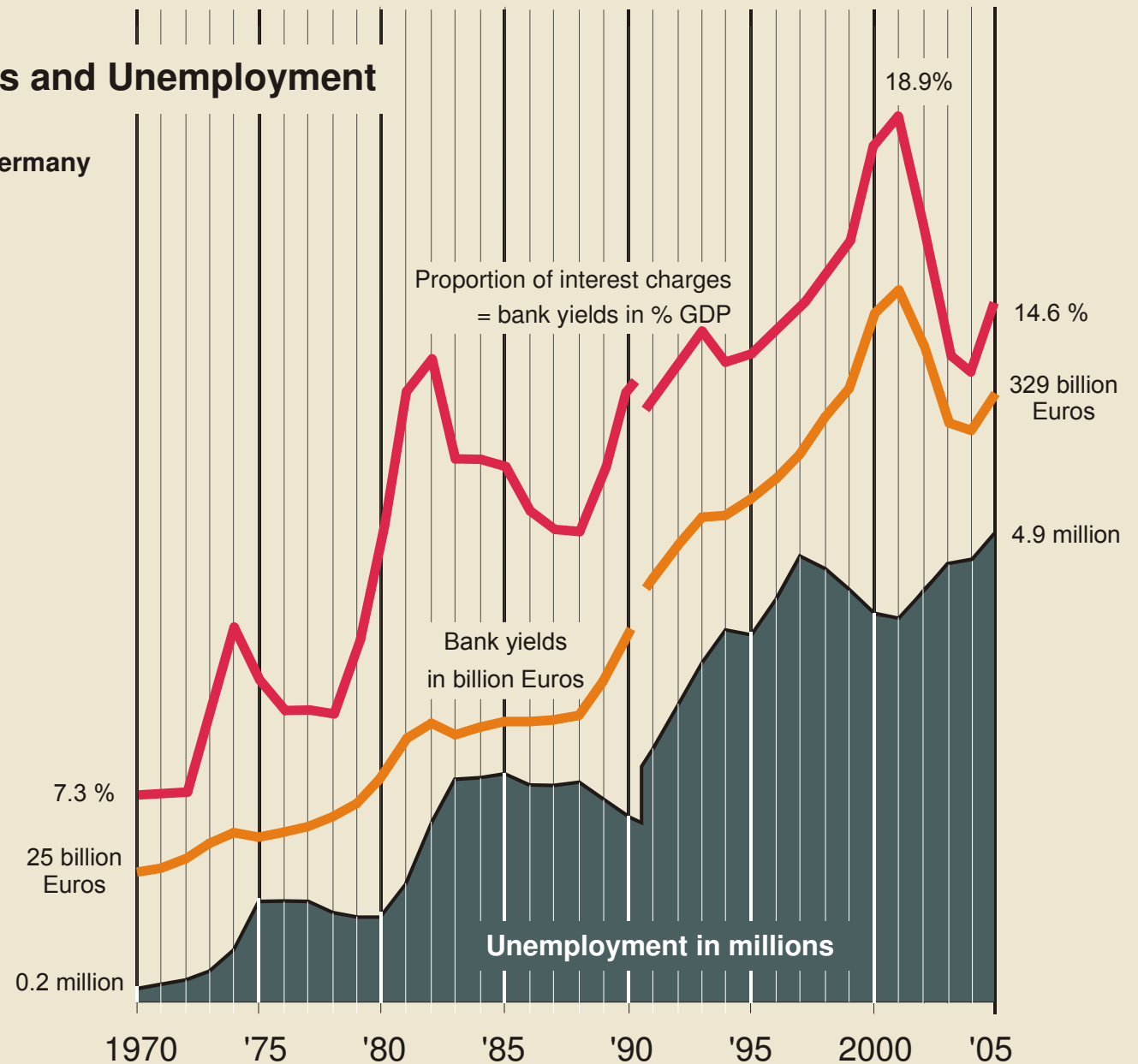


“99 per cent of people don't see the money problem. Science doesn't see it, economic theory doesn't see it, and the latter even declares it to be ‘non existent’. As long as we don't see money management as a problem, there is no prospect of an ecological transformation of our society.”

## Interest Charges and Unemployment

1970 to 2005 -  
after 1991 incl. East Germany

Let's turn to the question how unemployment is affected by interest burdens. Here is the curve of interest revenues and their various ascending phases. The yellow curve represents them in absolute figures, the red line reflects their ratio to the Gross Domestic Product, the economic output.



Since the growth of the economic performance slows down with increasing interest charges their proportion shoots up, and they rapidly decline when interest rates decrease. The proportion of interest charges shows the scope of the economy. We also observe that the proportion of interest charges goes on to increase after a short decline. This is the consequence of the fact, that the advantage of increasing interest returns will be swallowed by excessively rising debts. While this advantage had a positive effect during the first decade after the war which even contributed to a gradual elimination of unemployment, this is not so any more. Today unemployment increases and could only be reduced for short periods by cuts in wages. The cake can be divided only once and if the monetary capital and with it the burden of debt interests grows faster than the economic output, then the other side will receive a corresponding smaller share.

The state, which was able to finance the social net and support the unemployed is increasingly incapable of doing so. For one thing, because its revenues drop when companies go bankrupt or have lower turnovers, on the other hand, because the increasing number of unemployed and growing social tensions cause higher costs. These costs are not bearable any longer and an attempt has to be made to reduce these costs, because they are nagging on the reserves.

# Different Growth Results

Germany 1991 - 2001

Basic figures in billion Euros

**1991    2001    increase**

1'502    2'063    +37%

481    590    +23%

697    901    +29%

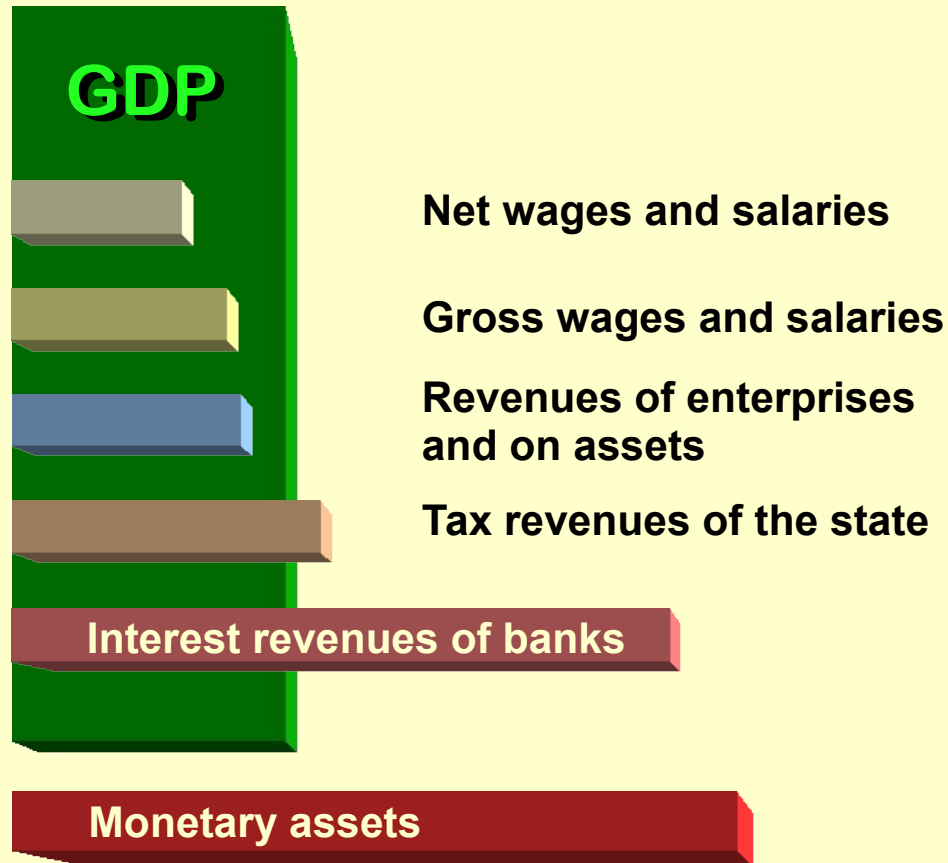
321    421    +31%

337    477    +42%

155    303    +89%

Stock:

3'083    6'158    +99%



A comparison of various developments in the economy between 1991 and 2001 may give an idea about the dilemma. During that decade the overall increase of the domestic product was 37%. That's the basic measure, for, if the output grows by 37% then all wages, all profits, the revenues of the state - all that can also grow by 37%.

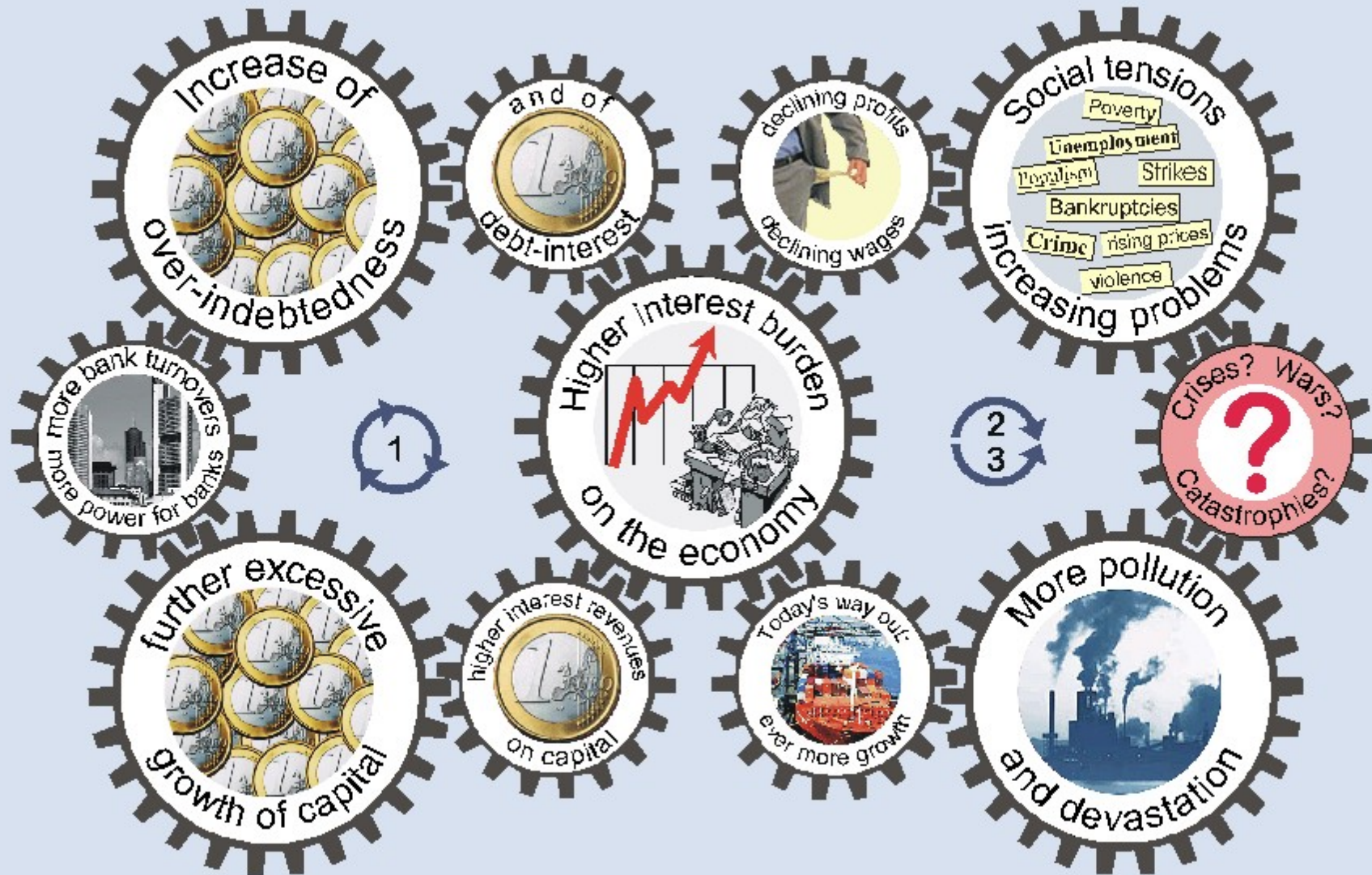
But what happened? Firstly, net wages have grown only 23%. Gross wages, too, remained one fifth below the measure. Even incomes from entrepreneurial activity and from fortunes were

lagging behind, which reflects the precarious situation of enterprises. They fight difficulties and their fears of bankruptcy. And many do go bankrupt.

Only the state could slightly increase its revenues above proportion. But what goes beyond any scope are the interest revenues of banks with 89% and along with them the augmentation of monetary assets by 99%. That means a doubling of monetary assets within ten years. This might be seen as a slight slowing down of their growth, because the average in the previous decades was a doubling of monetary assets every 8 to 9 years.

The insane augmentation of monetary assets can only be stopped, if the holding of money can be prevented. This is also a question of the juridical assessment of money. Primarily it is a public medium for exchanging goods and services by steady circulation, a public institution which should be open for usage by everyone and must not be blocked by anyone. Regarding money as a private commodity and keeping it as one likes could be compared to a driver who parks his car as he likes in the middle of a road, thus obstructing the ongoing traffic. Unlike the car driver, who would receive a severe penalty for his inappropriate behaviour, the money holder is seduced by a reward to feed his money back into circulation. Money is the most important medium in the economy which enables and sustains the exchange of services and goods. But still today, anyone has the right to block the flow of money without being made liable for the damage to the economy.

# Why do we go off the rails?



The cycle in the money sector...

... and its ramifications on world level

© Helmut Creutz / 088



The picture of this gear mechanism might be useful for summarizing the whole situation. The left part shows the cycle in the monetary sector and the right side is divided into an upper and a lower semi-circle representing the real economy.

In the money sector, monetary assets over-proportionally grow with an annual growth rate of 7-8% and the bank towers in every metropolis around the world grow higher and higher. The mass of monetary assets accumulates there and has to be serviced. This requires a corresponding infrastructure. Consequence is the expansion of credits to the economy - consequences again are higher interest burdens which have to be worked for in the economy. The interest flows to monetary assets increase and monetary assets grow. This is the vicious circle which our monetary system is based upon.

The consequence is, that ever higher interest payments leave less for others. Wages and profits decline and their consequences are bankruptcies, poverty, unemployment, rising prices, strikes, violence - in short: growing social tensions. And when these build up, which is inevitable with continuous redistribution, the kettle will burst. Civil wars, revolts, general strikes or whatever might arise up to wars.

So far the way out of the dilemma was continuous economic growth. We have been trying to deal with these tensions by baking ever bigger cakes. But this way out through continuous economic growth is a dead end because of the finiteness of the earth and its resources. From this development, too, result growing tensions, which already led to conflicts of interests. The conflict arises about the rights over the last resources which are bound to become scarcer by time. This will not be solved without wars, as we have already witnessed at the gulf, and in the near future there will probably arise conflicts about drinking water.

Well, that is the situation now which from both sides runs in a disastrous direction. What can be done? How can the disaster be avoided?

This is possible in one point only: the compulsion for economic growth must be reduced. And this is only possible, when there is no need for expanding the economic performance. The social problems would ease off, if the need for economic growth was diminished and with it the need for continuously expanding the circulating money. This again is only possible, when interest rates could decline without triggering fatal problems.

A safeguarding of money circulation that really works, could enable interest rates to drop to zero along and in accord with economic growth rates. The excessive growth of monetary assets would be reduced and with it the social tensions, which build up today not only between North and South but also within nations. With it the accelerated accumulation of debts would ease off and release the productive people in the economy from solving the impossible task of diminishing debts that grow faster than people can work.

Such a safeguarding measure could easily be implemented on current accounts or demand funds, where a demurrage fee of, say, half a per cent per month could easily be deducted. This would prevent the holding on to demand funds longer than actually needed. It is a bit more difficult with cash money, but there are a number of proposals of how this could be done. A circulation safeguarding or demurrage fee of that kind could stabilize the circulation of money in a similar way as the traffic, which is regulated with corresponding fees in order to avoid blockages.

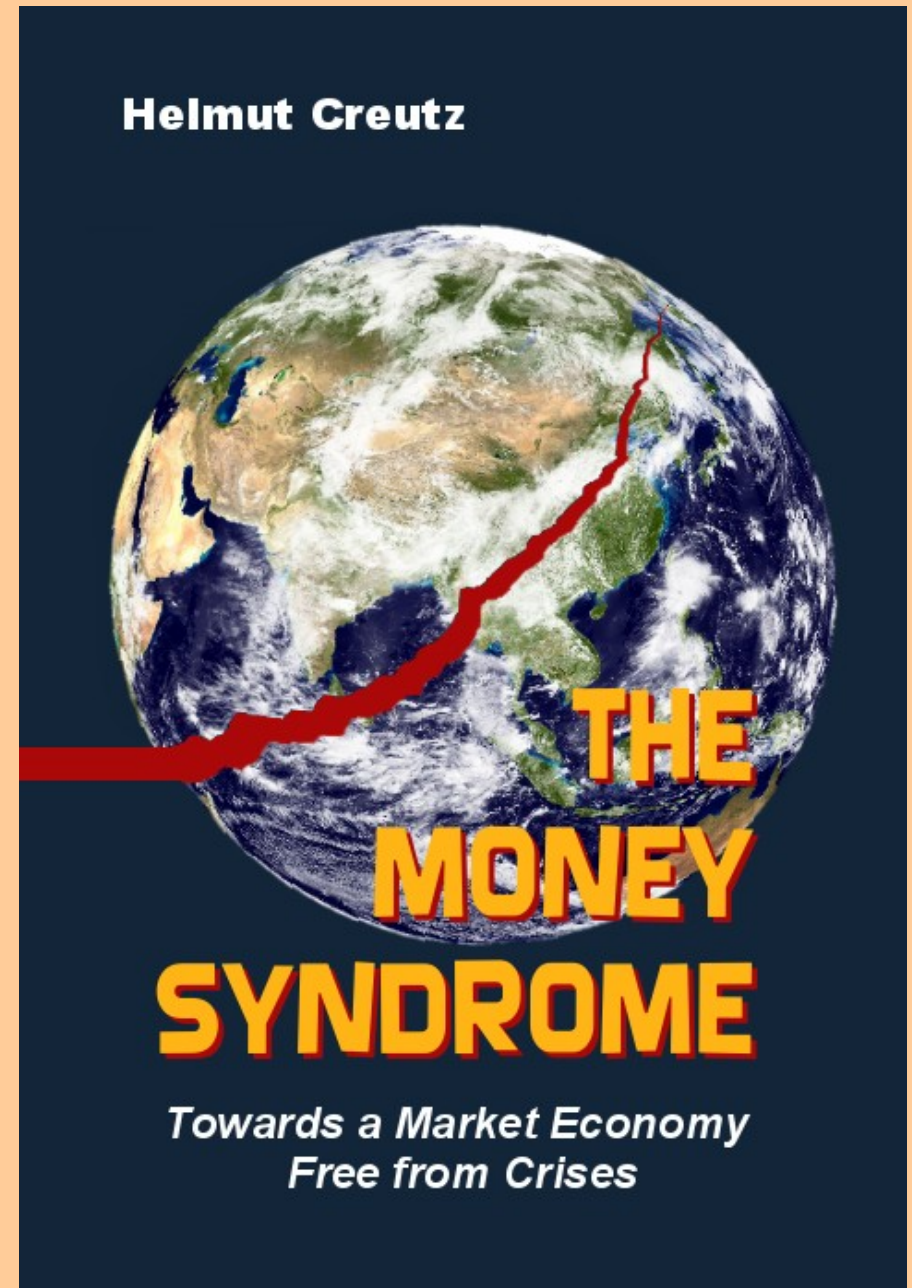
Without this decisive measure and an amendment of the defect in the money system a fair world will not be possible. For, a fair world is only possible on a  
fair foundation, and that is  
a fair money.

**If not indicated otherwise, all figures used with the graphs  
are based on data provided by the Deutsche Bundesbank  
(German Federal Bank)  
and the Statistisches Bundesamt  
(Federal Bureau of Statistics).**

The longseller "Das Geldsyndrom" has become a standard work on money within 15 years in Germany.

The English edition "The Money Syndrome" will be available in 2009.

Please contact: [order@fairconomy.org](mailto:order@fairconomy.org)



**LE SYNDROME DE LA MONNAIE** est non seulement un ouvrage de référence, mais plus encore, une mine d'informations pour tous les publics un livre qui ne se contente pas de théories, mais soumet des propositions concrètes pour un ordre économique et social grâce auquel l'environnement, et donc l'humanité, peuvent survivre.

Visitez: [www.lesyndromedelamonnaie.fr](http://www.lesyndromedelamonnaie.fr)

