Debt is the root of all evil

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Introduction

It is said “money is the root of all evil” but money, as originally used, was merely a significant improvement on barter. Beads, shells, tally sticks and many other items have been used as money. Money is a convenient means of buying and selling goods or services. To be valid currency, money only needs to have an agreed value between the parties to a trade or transaction.

The accurate biblical reference is: “For the love of money is the root of all evil”.[1] Love of money derives, at least in part, from the fact that our monetary system rewards hoarding money. By hoarding money, one earns interest. It was no accident that most major religions prohibited usury (lending money for interest). From a moral standpoint, it made good sense because interest fosters greed and allows the wealthy to prey on the vulnerable.

Money’s primary use, to facilitate trade, has become eclipsed by the practice of treating money as inherently valuable. We now have a multi-trillion dollar finance industry and yet, if money were suddenly removed, nothing tangible would be lost, only the means of recording value for the exchange of assets, goods and labour. No real assets, goods or services would be destroyed. Nonetheless, if money were removed it would cause a breakdown of our society because a means of exchange is essential to our economy. Without it trade and industry would collapse. Food, essential goods and services would quickly cease to be available at the point of need and leading to starvation and deprivation. Revolution would almost certanly follow and globalisation would ensure contagion.

The global money system has evolved over centuries and is relied on to manage economic activity today and into the future. However, the global banking and monetary system is exhibiting all the signs of a system in crisis. Warning signals of the system’s inherent instability have become more frequent and alarming but the system remains unquestioned by the

[1] Timothy Chapter 6, Verse 10

political and monetary authorities.

Western governments are faced with intractable dilemmas:

- Increase debt to bailout weaker economies and vulnerable banks to avoid contagion.
- Reduce debt to avoid being punished by the markets demanding higher interest rates and to reduce government expenditure on interest payments.
- Increase debt to restore economic growth

Meanwhile, overall debt levels are increasing exponentially.

There is no escape from the debt spiral without precipitating a depression. Already social unrest is spreading across the globe and it will only worsen. There is no remedy available within the current monetary and banking system.

Radical banking and monetary reform is the only way to avoid rolling revolutions across the western world and beyond. Past revolutions have been very bloody and the aftermath worse, in many respects, than what preceded them. However, our banking and monetary system is so poorly understood, even by those in the financial services industry, that gaining consensus for radical change is nigh on impossible.

We have a choice. Revolution or Evolution. To make this choice possible, the current banking and monetary system needs to be widely understood. Equipped with a thorough understanding we can then begin to imagine and develop a monetary system fit for millennia. This book is intended to help that understanding and imagination to evolve.

Chapter 1

History of Banking

1.1 England and Europe

Early banking, which developed in the 17th century, was two businesses: safe keeping of other people's money and lending money to finance trade and exploration.

Wealthy merchants (typically goldsmiths) needed to store their accumulated gold safely. Having built a vault or strongroom to store their gold, they could defray the cost and profit by offering to store gold for others for which they would charge a fee (demurrage).

Goldsmiths could also lend their own gold at interest to facilitate trade and exploration.

Depositors storing gold with a goldsmith (as many early bankers were) would receive notes promising to pay the bearer the amount of gold on the note. As the notes were portable and more convenient than carrying sacks of gold around, these notes, over time, came to be exchanged as though they were money.

The lending business evolved from these early bankers lending their own money to lending that of their depositors. They knew depositors seldom came to inspect their gold because they were using promissory receipts as money and had no need for their gold. By writing promissory notes against their customers' deposits, the banks could earn additional interest. When it became known that banks were lending customers' money and earning interest for themselves, two things happened. A critical judgement in law turned holding money for safekeeping (as applied to all other goods) from bailment to something quite different.[1]. Bailment required that the owner's

[1] Legal reference required

original goods were returned intact subject to any payments for storage. By this judgement the storing of money moved from being treated like any other goods to being treated as a fungible deposit. In other words, banks weren't required to return the depositors' own gold coins, merely coins to the same value. Failure to restore someone's gold to them ceased to be a criminal offence but became subject to civil law. In return for banks being able to lend depositors' money at interest, the depositors received a share of the interest charged to borrowers.

Thus the foundations for today's monetary system were laid but this was only the beginning. Remember that the bankers knew depositors seldom asked for their gold and were unlikely to all demand their gold simultaneously. The bankers found they could write notes for more gold than they actually stored in their vaults, enabling them to earn interest which they wouldn't have to share with depositors. Occasionally, word would spread that a bank had insufficient gold in its vaults and depositors would rush to the bank to withdraw their money (known as a "run on the bank"). As there was not enough gold to honour the promises issued by the bank, it would collapse. By this process, the system was self-regulating as reckless banks were driven out of business. Nevertheless, this practice of legalised fraud flourished. Depositors were cheated in so far as they didn't know their money was being lent many times over and received no compensation by way of additional interest. The borrowers were defrauded by paying the banks interest for the use of money that banks never had. This was the genesis of fractional reserve lending as universally practised by banks today.

Not content with the advantage obtained through fractional reserve banking, the banks also acquired control of the economy by the creation of central banks. The privately owned Bank of England was established in 1694 and was granted the monopoly power to issue and control the nation's money.[2] In return, the bank financed the government. Being able to control the money supply gave the banks great power not least because "he who pays the piper, calls the tune". Thenceforth the bankers wielded ultimate control as they do today. Although the Bank of England was nationalised in 1946, it remains very much under the banks' control and influence.

Through manipulation of the money supply, bankers could expand their wealth and influence. As money is fed into the economy, asset prices rise and the value of the banks' holdings rise. When the economy overheats and

[2]From the Bank of England website: "The Bank of England was founded in 1694 to act as the Government's banker and debt-manager. Since then its role has developed and evolved, centred on the management of the nation's currency and its position at the centre of the UK's financial system."

inflation rises, banks liquidate their holdings and reduce the money supply by ceasing to lend, thereby precipitating a sharp drop in asset prices, allowing them to buy yet more assets on the cheap. By successive economic booms and busts, the banks have gathered great wealth and political influence. Banking dynasties cross national boundaries financing both sides in wars and profiting whatever the outcome. Clearly, there is much to be gained from controlling the monetary system and writing the rules by which it is governed and regulated. As Amschel Rothschild said in 1838: "Let me issue and control a Nation's money and I care not who makes its laws".

Which brings us to the fight for control of the American colonies.

1.2 USA

By the mid-eighteenth century the American colonies were thriving. One of the factors in the American War of Independence was the colonies issuing their own interest free, money (Colonial Scrip) which deprived England's King George III of taxes and European bankers of their power over the American colonies' money supply. "The refusal of King George to allow the colonies to operate an honest money system, which freed the ordinary man from clutches of the money manipulators was probably the prime cause of the revolution," Benjamin Franklin, Founding Father. Having won independence from England in 1782 and secured the power to issue their own currency, the founding fathers sought to protect the American people from the power of banks. However, through buying influence over members of congress, the banks managed to achieve legislation to create a central bank in 1791 but its unpopularity was such that its twenty year charter wasn't renewed. An another attempt was made in 1816 but it too failed to get its charter renewed, in 1836. Andrew Jackson, who became president in 1828, denounced the central bank as an engine of corruption. However, the bankers persisted in their political lobbying and eventually in 1913, the Federal Reserve Act, creating the Federal Reserve Board, was signed into law. The act passed on 23rd December when there were only three senators present for the vote. Woodrow Wilson, the president who signed the act into law, wrote that it was the biggest regret of his term in office. Following the stockmarket crash of 1929 and the ensuing depression, the banks were brought partially to heel by the Glass-Steagall Act of 1933.[3] Following its

[3] In 1933, Senator Carter Glass (D-Va.) and Congressman Henry Steagall (D-Ala.) introduce the historic legislation that bears their name, seeking to limit the conflicts of interest created when commercial banks are permitted to underwrite stocks or bonds. In

introduction, the banks spent the next 60 years lobbying to have the Act removed or watered down and its demise was completed by the introduction of the Financial Services Modernization Act of 1999. Progressive deregulation over the last 30 years has awarded banks unprecedented power and not just over the economy. Financial interests dominate political, military, media, environmental and commercial activity across the globe.

Ownership of the twelve Federal Reserve Banks which control the Federal Reserve Board is stipulated in the Federal Reserve Act and the capital of the Federal Reserve Banks is subscribed by member banks.[4]

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the early part of the century, individual investors were seriously hurt by banks whose overriding interest was promoting stocks of interest and benefit to the banks, rather than to individual investors. The new law bans commercial banks from underwriting securities, forcing banks to choose between being a simple lender or an underwriter (brokerage). The act also establishes the Federal Deposit Insurance Corporation (FDIC), insuring bank deposits, and strengthens the Federal Reserve's control over credit.

[4]Federal Reserve Act: Section 5. Stock Issues; Increase and Decrease of Capital

> 1. Amount of Shares; Increase and Decrease of Capital; Surrender and Cancellation of Stock
>
> The capital stock of each Federal reserve bank shall be divided into shares of $100 each. The outstanding capital stock shall be increased from time to time as member banks increase their capital stock and surplus or as additional banks become members, and may be decreased as member banks reduce their capital stock or surplus or cease to be members. Shares of the capital stock of Federal reserve banks owned by member banks shall not be transferred or hypothecated. When a member bank increases its capital stock or surplus, it shall thereupon subscribe for an additional amount of capital stock of the Federal reserve bank of its district equal to 6 per centum of the said increase, one-half of said subscription to be paid in the manner hereinbefore provided for original subscription, and one-half subject to call of the Board of Governors of the Federal Reserve System. A bank applying for stock in a Federal reserve bank at any time after the organization thereof must subscribe for an amount of the capital stock of the Federal reserve bank equal to 6 per centum of the paid-up capital stock and surplus of said applicant bank, paying therefor its par value plus one-half of 1 per centum a month from the period of the last dividend. When a member bank reduces its capital stock or surplus it shall surrender a proportionate amount of its holdings in the capital stock of said Federal Reserve bank. Any member bank which holds capital stock of a Federal Reserve bank in excess of the amount required on the basis of 6 per centum of its paid-up capital stock and surplus shall surrender such excess stock. When a member bank voluntarily liquidates it shall surrender all of its holdings of the capital stock of said Federal Reserve bank and be released from its stock subscription not previously called. In any such case the shares surrendered shall be canceled and the member bank shall receive in payment therefor, under regulations to be prescribed by the Board of Governors of the Federal Reserve System, a sum equal to its cash-paid subscriptions on the shares surrendered and

The member banks receive a 6% dividend annually. The Act also provides for money to be paid over to the government but this in no way means that the Federal Reserve isn't under the bank member/owners' control.

Irrespective that the Federal Reserve Banks are privately owned, the illusion of a government controlled central bank is perpetuated through its website. The name was chosen deliberately to mislead and most people assume that the Federal Reserve Board (Fed) is part of the US government. While some aspects of the Fed are at the direction of government, monetary policy is not and clearly there are conflicts of interest. Furthermore, as the Fed is responsible for regulating banks, member banks are regulating themselves. Although the President appoints some members of the Fed including the Chairman, they are typically from a banking or conventional economics background (and only think in terms of the current monetary system without questioning its validity).

The establishment of the banks' control of the Federal Reserve Board extended European banking influence westward and today bankers' control of central banks is global. Most international trade and finance is conducted in US dollars and supra-national financial institutions, such as the Bank of International Settlements (the central banks' bank) are privately owned or managed in the interests of banks.

one-half of 1 per centum a month from the period of the last dividend, not to exceed the book value thereof, less any liability of such member bank to the Federal Reserve bank.

[12 USC 287. As amended by act of Aug. 23, 1935 (49 Stat. 713).]

Chapter 2

The Mechanics of Banking

Fractional reserve banking and central banks (under the control or influence of private banks) underpin our debt based, monetary system.

2.1 Fractional Reserve Banking

Fractional reserve lending allows banks to generate exceptional returns on capital by being able to lend multiples of their reserves. In addition, loans generated are paid into the closed loop banking system as customer deposits. These deposits are reduced by the reserve fraction but are then added to the reserves against which further multiples can be loaned. Fractional reserve lending inflates the money supply many times over.

The mechanics of this process are comprehensively addressed in Murray N Rothbard's book "Mystery of Banking" and the 45 minute video, "Money as Debt" by Paul Grignon. In simple terms is works like this: If we start with the banks' reserves (their own capital) and work on the basis that banks can lend ten times their capital (the multiple varies according to the reserve requirements set by the central bank).

Say bank A has its own capital of $1m deposited at the central bank. When customer C borrows $1million from bank A, C signs a loan agreement and the bank credits C's account with $1million. At that point bank A's balance sheet looks like this:

Assets		Liabilities	
Reserves	$1,000,000	Shareholder's Funds	$1,000,000
Loans	$1,000,000	C's Account Balance	$1,000,000
Total	$2,000,000	Total	$2,000,000

Under the loan agreement, the customer commits to repay the loan together with interest, let's say 10% per annum. If the loan is repaid with the interest a year later, bank A has made a gross profit (interest) of $100,000 and its capital remains intact at the central bank. This style of banking is referred to as 100% reserve banking, ie. the loans are backed by 100% of the bank's capital.

Under the system of fractional reserve banking, bank A may lend up to, say, 10 times its capital. If, in addition to C's loan, bank A lends $9million to customer D on the same terms, ie. 10% interest, bank A's balance sheet looks like this:

Assets		Liabilities	
Reserves	$1,000,000	Shareholder's Funds	$1,000,000
Loans	$10,000,000	C's Account Balance	$1,000,000
		D's Account Balance	$9,000,000
Total	$11,000,000	Total	$11,000,000

The first $1million is backed by bank A's capital but the remaining $9million is not backed by anything other than the loan agreement, ie. that the borrower will repay the capital and interest on agreed terms. The bank has lent $9million which it never had and the total money supply has increased by $9million which didn't exist before the loan was granted.

When both C and D repay their loans with interest a year later, the $9million disappears from the balance sheet and the money supply contracts by the same amount. Bank A receives $1million in interest ie. 100% return on the capital of $1million, as opposed the 10% return on capital deployed under a system of 100% reserve banking. Nine tenths of the profit is legalised fraud. Customer D doesn't know that the bank is charging him $900,000 interest for money that the bank never had. For a valid contract to exist in law, both parties need to bring something of value to the transaction: D brings $900,000 but bank A brings nothing.

Let's go back to when the loans are granted and let's say D wants to buy a luxury yacht with the $9million. D goes to a yacht builder, we'll call him Y. D pays Y $9million for his boat and Y deposits the money in his bank B. If bank B wants to issue loans against this deposit, it has to apply the reserve fraction, ie. one tenth to arrive at a figure of $900,000. Bank B can now lend up to ten times this amount, creating an additional $8,100,000 which didn't exist before. Bank B's balance sheet:

Assets		Liabilities	
Cash	$9,000,000	Y's Account Balance	$9,000,000
Loans	$9,000,000	Other Account Balances	$9,000,000
Total	$18,000,000	Total	$18,000,000

At the central bank $900,000 would be transferred from bank A's account to that of bank B which would leave bank A short of capital to support its lending of $10million (it would only have $100,000 reserves). However, in practice banks are constantly issuing loans and receiving payments. The daily transfers at the central bank are the net movements between banks which means as long as the process continues and banks manage the flow of receipts and loans, the system remains intact causing the money supply to expand exponentially.

Sometimes a bank is reckless and finds it has insufficient capital to support its loan book and meet its obligations. It can borrow in the short term money markets (where banks lend to each other) to give it the liquidity to meet its obligations but if other banks get wind of a bank in trouble, that source will dry up, as happened to Lehman Brothers in the US in 2008 and Northern Rock in the UK a year earlier. Lehman's collapsed and its carcase was picked over by its major competitors, which acquired valuable businesses on the cheap. Northern Rock was bailed out by loans from the Bank of England before being taken into public ownership ie. nationalised.

In order to avoid the problem of running out of capital, banks developed a mechanism to remove loans from their balance sheets by securitising them. This entails grouping a number of loans together into a bond (the generic name given to an interest bearing security) which pays interest to investors (the interest paid to bond holders is the accumulated interest on the underlying loans less the costs of creating the bond and the issuing bank's profit). Sub-prime mortgage backed securities are packages of mortgage loans and bought by investors. By selling bonds (loan backed securities) banks can use the money received from investors to rebuild their balance sheets, allowing them to make yet more loans. We'll come back to the sub-prime mortgage debt crisis.

There is a fundamental flaw in the fractional reserve banking system. When the loans are granted to borrowers, only the principal (or initial value of the loan) is created as money, not the interest, ie. the money to pay the interest is never created. This has two bizarre consequences:

- If all the debt is paid off, money will disappear because the money was originally created by the loan agreements On repayment, the agreement expires and the money destroyed. As the loans are repaid and debt money destroyed, less money is available to pay the interest.

- To maintain the system, debt needs to grow exponentially or there will be insufficient money to pay the interest. Consequently, ever new ways of generating debt have evolved, eg. in 1997, David Bowie's was

> the first song catalogue to be securitised and turned into debt. Bowie received $55million in exchange for future royalties and the Bowie bondholders received interest payments paid out of the royalties. The issuing bank pocketed the difference between the royalties received and the interest paid to bondholders, having had to put no money up to finance the deal. Private finance for public infrastructure, leveraged buyouts and a plethora of other financing opportunities have opened up a huge global market for debt based finance. Now, in the midst of the worst financial crisis in history, a new means of creating debt has emerged, creating yet more debt to solve a debt crisis. If it wasn't so serious, it would make great farce.

We know fractional reserve lending expands the money supply. We also know expansion of the money supply beyond that needed to service the economy, causes inflation. All other things being equal, doubling the money supply will double prices. Inflation is a form of theft but it is a crime which affects people to different degrees. Those who buy goods immediately after the money supply is increased, will pay the original prices but as the money permeates through the economy, prices rise. Those who are hit hardest by inflation are the poor. Those who own assets (property, shares etc.) may benefit from inflation as asset prices rise with inflation. Since the 1970s debt has fuelled the housing boom. Real wages for an increasing proportion of the population in the UK and US are declining. Banks, by expanding the money supply, are guilty of theft.

2.2 Central banks

Countries' central banks are, in the main, owned by banks which in turn are privately owned and controlled by narrow banking interests. Understanding who owns what is difficult because the ownership trail is obscured by nominee holdings and trusts. However, a recent study, published in 2011 in the "NewScientist" journal, analysed over 40,000 Transnational Corporations and discovered, on the basis of publicly available information, 40% of their economic activity is controlled by 147 "super entities". The study didn't seek to establish ultimate ownership of these super entities because of the opacity of their listed share ownership. Shares are often held in nominee names thus hiding the identity of the ultimate owner of the shares. Featured in the top 20 of these super entities are Barclays Bank, JP Morgan Chase and Goldman Sachs. When John Pierpoint Morgan died in 1913 his estate was only valued at $80 million (equivalent to around $1.2billion today) and considerably less than his activities, as the leading banker of his day, would have accumulated. This suggests that he was acting on behalf of, or in partnership with, much richer associates.

The US central bank, the Federal Reserve Board (Fed), is made up of representatives of the twelve regional Federal Reserve Banks (which are privately owned) and government appointees. In so far as the Fed is owned by the banks, they exercise control over monetary policy and banking regulation. The government appointees are typically alumni of the major banks or are so steeped in conventional economic thinking (as framed by banking interests) as to ensure that banks' monopoly power to issue and control the money supply remains unchallenged. In addition, the banks are regulating themselves. This model is replicated across the globe and although the Bank of England was nationalised in 1946 it remains under banking control and influence (not least through an inability to challenge banks' supremacy). The massive bank bailouts from public funds in the wake of the sub-prime crisis are evidence enough that this is true.

Banks cross national boundaries and dominate the supranational finance institutions. The Bank of International Settlements (BIS), the central banks' bank based in Basel, Switzerland, is privately owned. The BIS was established in 1930 in the wake of the Wall Street Crash of 1929 and during the subsequent depression. Member banks own shares in the BIS. Other institutions such as the World Bank and the International Monetary Fund are managed by bankers or ex-finance ministers who are well schooled in the conventional monetary and banking paradigm. They never question the fundamental process of banking and issuing money.

2.3 Summary

Fractional reserve lending is legalised fraud and expands the money supply, causing inflation, a crime which mainly injures those without assets. Banking interests control national and international central banks which means they control the global economic system and consequently, everything else. Their influence is dominant in politics, the media and public institutions not least because independent participants have little understanding of where ultimate power lies. Banks are content to let the left (socialists) and right (capitalists) slug it out in the political puppet theatre while they get on with their long established business, accruing an increasing share of the world's wealth and power.

Most finance professionals and economists have no understanding of the fundamental flaws built into the global debt based monetary system. It is a system they've learnt and grown in but never questioned. Is it any wonder that non-finance people are similarly ignorant?

Chapter 3

Interest and Inequality

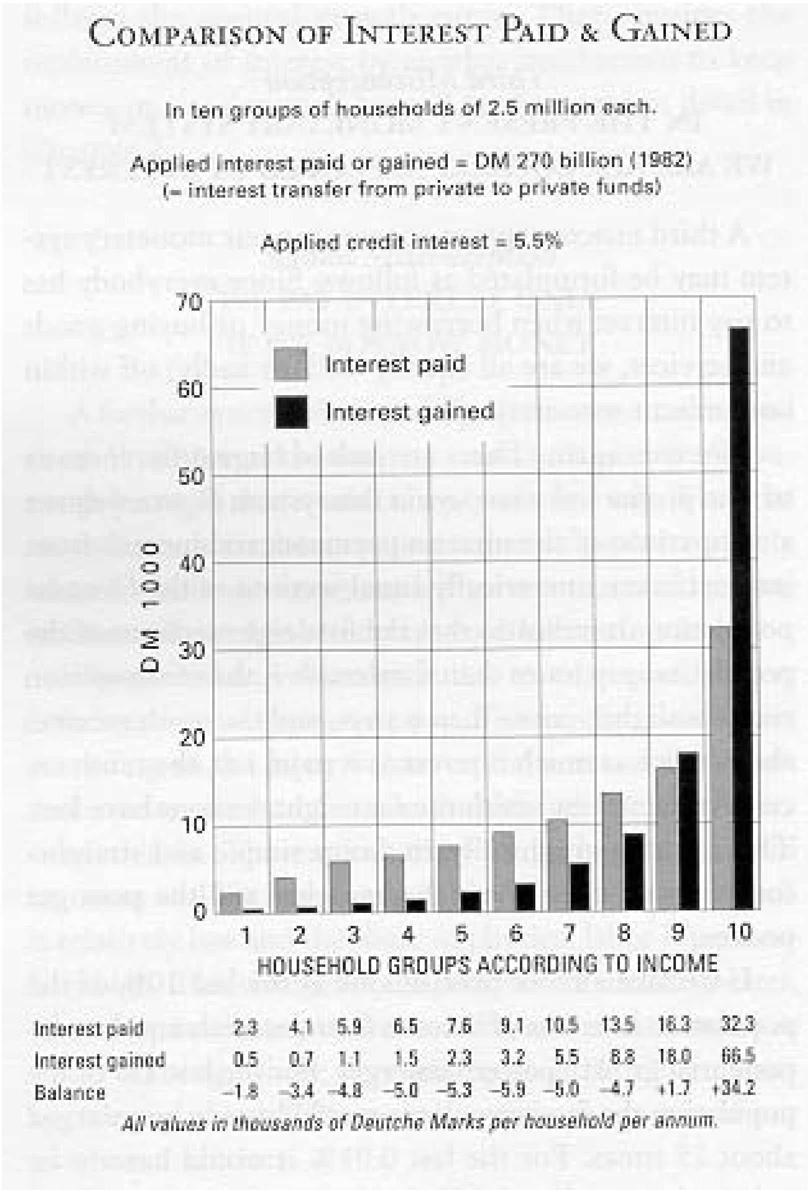
Interest is the fundamental concept on which our debt based money system is based. It is so engrained in western thinking that it is hard to imagine an economic system which doesn't involve the charging of interest. It enabled millions to buy their own home but in the process, expanding debt has driven house prices to levels inaccessible to first time buyers. Home loans fuelled the consumer boom and, together with the explosion of debt based finance, have driven the economy to the current crisis.

Interest on debt drives inequality and will bring the system crashing down. Margrit Kennedy, a German academic, wrote "Interest and Inflation Free Money" in 1995. Her book was written at a time when debt finance was much less prevalent than today and was based on data for Germany, a country with lower levels of home ownership and inequality than in either the UK or USA. Nevertheless, the data are quite startling.

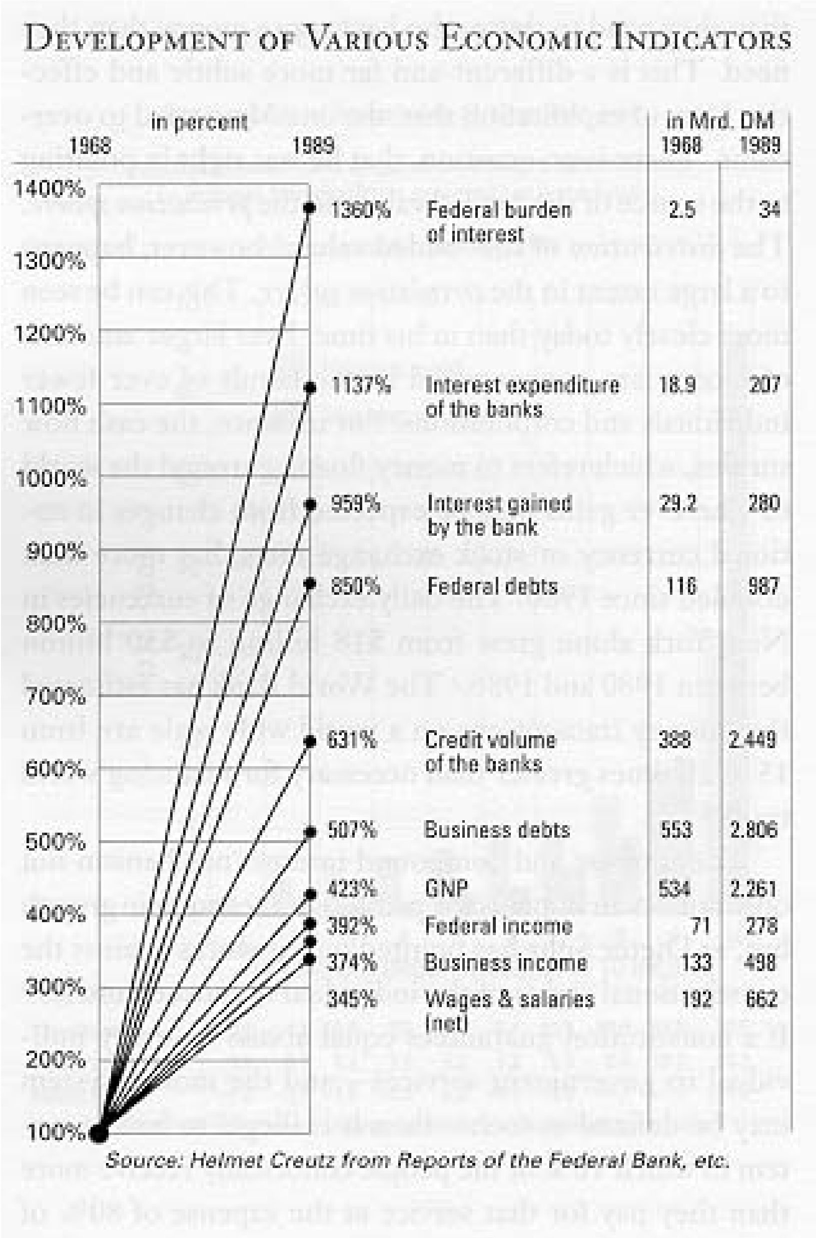
Everybody pays interest. Whenever, we buy goods or services, we pay interest as part of the price. Transport, infrastructure and utilities, for example, require heavy investment which is mainly financed by debt on which interest is paid. This interest cost is passed on to customers or taxpayers. The prices of food, services and everything else we buy all contain an element of interest. Interest which goes to the banks (less what goes to investors) without them having to commit any real capital themselves. Kennedy found that even before debt finance was as widespread as today, on average, around 50% of prices paid by individuals was interest.

This interest is the fundamental driver of inequality. She analysed interest payments and receipts for tenths of the population, by wealth. The bottom 80% paid significantly more interest than they received whereas the top 10% received twice as much interest than they paid. The wealthiest 10%

received all the interest paid by the poorest 80%. Further up the wealth scale the inequalities are even more acute. The wealthiest 1% received 15 times net interest than the top 10%. For the "super rich", ie. the top 0.01%, the multiple was 2,000! This exponential wealth differential is a function of interest. It ensures wealth is transferred from those with less money than they need to those who have more than enough.



Kennedy also found interest costs grow exponentially which confirms what we know from the mechanics of the banking system. Debt needs to grow exponentially to cover the interest costs because the interest on loans is never created. In Germany, between 1968 and 1989, wages and government income grew by approximately 400% while interest costs, paid by the government, grew more than three times faster, rising 1,360%.



Debt interest is also a fundamental driver of inflation. As interest costs rise, prices rise accordingly.

Governments are squeezing down employment costs. Public sector pensions are attacked under the misapprehension that public sector workers have benefited disproportionately to those in the private sector. In reality, it is the banks who've taken an ever growing slice of the economic cake at the expense of taxpayers and workers in both the private and public sectors.

3.1 Summary

We've already seen how fractional reserve lending and central banks enrich the banks at the expense of everybody else. Interest is the fuel driving exponential growth of inequality, particularly in the UK and USA but it is now a growing problem across developed and developing nations. Having explained how we've come to this point of economic crisis, let's examine the economic, social and political consequences of the global debt based banking and monetary system.

Chapter 4

Consequences of the banking and monetary system

4.1 Economic Consequences

The banking and monetary system underpins the global economy. We've already seen that debt (and interest costs) are rising exponentially and are unsustainable. Following the credit crunch of 2008, policy makers and pundits have been obsessed with re-establishing growth in the belief that economic growth will boost tax revenues allowing governments to pay down debt to more affordable levels.

But where is this growth to come from? Financial "experts" claim the state has become too big and the private sector needs to grow to replace public sector jobs. However, through financial engineering and off-shoring many productive activities, to meet investors' demand for higher rates of return, jobs have been exported to low wage economies, reducing the capacity of the domestic population to consume. Many consumers are already over-borrowed and hardy likely to resort to debt to boost consumption.

Export led growth is regarded as the best way forward but as the financial sector has grown, it has been at the expense of productive capacity. The best university graduates are recruited into the major banks, seduced by eye-watering rewards, denying the real economy access to the best brains. Financial engineering is no substitute for being able to produce useful things. Banking and finance has squeezed out other productive activities as its contribution to national GDP has grown.[1]

GE Capital - case study

[1] GDP and finance reference required

But what of this concept of economic growth? What does it actually mean? Conventional wisdom suggests GDP growth of 3% per annum is a sensible and desirable rate for developed economies. This is exponential growth and at 3%, an economy will double every 24 years. That means cutting down twice as many trees, extracting resources twice as fast, doubling consumption and throwing away twice as much. Clearly, this is unsustainable.

Natural growth is characterised by rapid initial physical growth until maturity and then growth becomes qualitative. A child grows rapidly to around the age of 20 when physical growth ceases and intellect, wisdom and experience develop thereafter. Exponential growth in nature is evident in viruses and disease such as cancer. Our debt based monetary and banking system is the cancer at the heart of our civilisation.

This cancer manifests itself in greed, inequality, conflict, suppression of individual freedom, fear and poverty. In the natural world once cancer enters the final, incurable stage the result is inevitable, the host dies. The current debt spiral is out of control and collapse of the economic system imminent, threatening to take our civilisation with it.

4.1.1 Bailouts

When the credit crunch hit in the Autumn of 2008, there had already been a number of warning signals.

Private sector debt according to 2011 UK Budget is at 450% of GDP of which 250% is financial company debt and the balance split between households and non-financial companies.

4.1.2 Agglomeration of corporates - globalisation

4.1.3 Sovereign debt

4.1.4 PFI debt financed public infrastructure

4.1.5 Utilities, transport and infrastructure

4.1.6 Wages Pensions

4.1.7 Super rich, banker's and CEO remuneration

4.1.8 Public services

4.1.9 Environment

4.1.10 Military Industrial Complex

4.2 Social and Political Consequences

4.2.1 Politicians

4.2.2 Media

4.2.3 Public institutions

4.2.4 Environmental movement

4.2.5 Law - legal aid

4.2.6 Winner takes all

4.2.7 Wars

4.2.8 Civil society / liberties

4.2.9 Unrest - indigniados, OWS, Greece, Italy - revolution

4.3 Sub-Prime Crisis

The sub-prime mortgage crisis was created by perverse structural incentives to obscure the truth. The major culprits were the banks which issued and traded mortgage backed securities and derivatives. But others were by no means blameless.

The mortgage loans were made either to people on low incomes, allowing them to buy houses they couldn't afford, or to speculators who hoped to make a profit through a quick sale in a rising market. Subsequent investigations have revealed fraudulent loan application forms where buyers' income was inflated to show that they could afford the payments. Often the loans were "low start" which meant initially the payments were affordable but once the payments rose to the real level required to repay the mortgages, the loans went bad because payments were unaffordable.

Debt was being pumped into the housing market inflating prices. Speculators signed up for loans, again fraudulently claiming inflated salaries and ticking the box indicating they intended to occupy the house they were buying. The intent was to sell the houses at a profit before the higher monthly payments kicked in.

The house buyers had every incentive to hide that fact they wouldn't be able to keep up the payments encouraged by real estate agents who were earning higher commissions as prices were inflated by debt money pumped into the housing market.

The mortgage companies and banks were incentivised to lend as much money as possible without regard to the consequences. By the time the loans went bad lenders had already sold the mortgages to investors in mortgage backed securities, enabling them to write yet more mortgage business.

The issuing banks which created the sub-prime mortgage backed securities by grouping loans into packages were making money in a number of ways. They charged fees from the creation and issuing of the mortgage backed securities, selling and trading them. They also created derivative products by slicing up the mortgage backed securities and arranging them in different packages. In some cases, they made money betting against their own clients by selling securities "short" ie. some banks sold securities they didn't own to profit from the fall in prices when investors realised that they held relatively worthless "junk" bonds. The term junk came from the 1980s when Michael Milliken of Drexel Burnham Lambert achieved notoriety for a similar process of packaging poor quality loans and marketing them as investment grade instruments. It seems regulators and politicians are incapable of learning from experience. The mortgage backed securities are referred to as "sub-prime" because they are not of "prime" investible quality. In investment terms, prime means AAA rated government debt of a country with an impeccable credit profile. US Treasury bonds have traditionally been AAA rated although recently, their the credit rating agencies have indicated this rating is under threat of being downgraded. Investors in AAA government debt accept a lower level of interest ie. pay more for the income stream (referred to as the coupon) from government bonds because the risk of losing their money was minimal.

Which brings us to the key role played by the credit rating agencies (Standard & Poors, Fitch and Moodys). The credit rating agencies opened for business in the early 1900s and provided due diligence of fixed interest securities (bonds) to investors for which they charged the investors a fee. In other words, the credit ratings agencies' success and profitability depended on their ability to help investors avoid losing money through debt defaults. However, in the 1970s the credit rating agencies started charging the issuers of debt securities (bonds) to rate the bonds before they were marketed to investors, a practice which continues to this day. This fundamental change in the credit rating agencies business model laid the foundations for the sub-prime crisis.

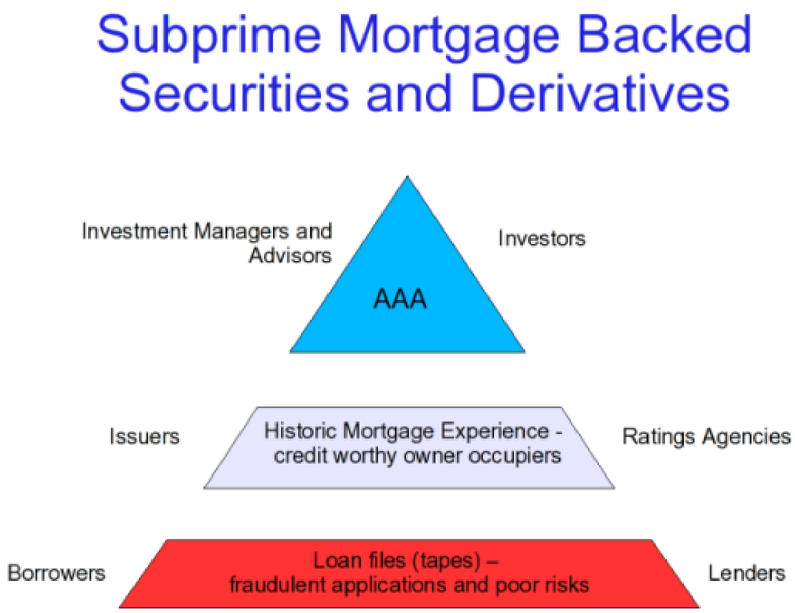
There is ample evidence of collusion between banks (which created the securities) and the credit ratings agencies to package the sub-prime mortgages in such a way as to achieve AAA ratings.[2]

Even as the mortgages were defaulting, the ratings agencies didn't downgrade the securities until the sub-prime crisis was well underway, allowing the banks to offload more sub-prime securities onto unwitting investors. During the period 2000 to 2006, the credit ratings agencies turnover (income) rose fourfold. Clearly they were well rewarded for obscuring the true nature of what they were rating.

The investors, who lost money in the end, were earning high yields on AAA rated securities (remember government AAA debt paid much less).

Everyone involved was heavily incentivised to behave dishonestly or to turn a blind eye to the deception. Some have referred to "a few bad apples" which caused the crisis. This is nonsense, the fraud was systemic.

[2] Franklin, S&P director reference



The truth was obscured in a pyramid of ignorance and collusion. The investors, investment advisers relied on the credit rating agencies' corrupted due diligence. Raters working within the ratings agencies had no access to the underlying mortgage files (or computer data tapes) but were relying on historic mortgage repayment data which reflected low default rates of when mortgage loans were only made to credit worthy owner occupiers. In other cases, securities were rated with no analysis at all. The issuing banks were colluding with the credit rating agencies to fabricate securities which were given AAA ratings. There were structural incentives to hide the truth throughout the pyramid, irrespective of regulation or the previous integrity of the individuals. They were all corrupted by systemic incentives. Structural incentives and conflicts of interests abound within our economic, social and political systems.

However, the sub-prime crisis wasn't limited to the mortgage backed securities going bad. The banks found another way to make money from their fraud. Credit Default Swaps (CDSs) were used to insure credit risk, ie. another party (an insurance company or bank) would take on the risk of default in return for quarterly premiums from the policyholder.

The London branch of American Insurance Group (AIG) wrote a lot of business in CDSs. AIG's senior management in the US were delighted at the $millions in profits being generated from this new activity but failed to recognise the liabilities, should the banks claim, would swamp AIG's balance sheet; they didn't have the money to cover claims.

It is commonly required to demonstrate "insurable interest" to take out an insurance policy. However, in the CDS market, insurable interest doesn't apply allowing the banks to insure against sub-prime mortgage securities going bad that they didn't even hold.

An additional benefit in placing the credit default risk with an insurance company is lighter regulation. Insurance regulation is a sleepy backwater compared to securities regulation which has stringent rules and reporting. The US insurance regulator, Name, was ill-equipped to understand, let alone regulate, the CDS market.

The sub-prime crisis came to a head in the Autumn 2008 with the collapse of Lehman Brothers prompting fears of a global banking meltdown. Fear was whipped up in the media and spread across financial markets. In this atmosphere of fear and panic, the banks frightened politicians into bailing them out, threatening that if they did not agree the banking system would collapse. Congress was pressured into passing legislation for the $800billion Troubled Asset Relief Program (TARP) to cover the banks' sub-prime losses. Hank Paulson, US Treasury secretary, former CEO of Goldman Sachs and architect of TARP, exhorted Congress to agree the bailout without conditions being imposed on the banks.

Meanwhile, AIG had been hit by claims from banks which it couldn't pay and the banks arranged for an additional bailout of AIG. The meeting to agree the bailout of $128 billion for AIG was attended by Lloyd Blankfein, the CEO of Goldman Sachs and Hank Paulson. Goldman Sachs received nearly $13bn of the resulting AIG bailout fund enabling them to pay $billions in bonuses in the following year. Weaker banks were driven into the arms of the bulge bracket banks, creating even larger behemoths which tightened their grip on the political process and tilted the financial landscape yet further in their favour. To this day, no organisation or individual of significance has been held to account for the crisis. The credit rating agencies continue to be rewarded by the issuers, a fundamental root cause of the crisis.

The credit default swap (CDS) market is unregulated and has grown way beyond the cost of the sub-prime crisis and should claims be made, they are unlikely to be honoured. According to the Bank of International Settlements in 2006, the notional value of credit default swaps was $20 trillion, more than a threefold increase from two years earlier. Who knows the value today because they are traded over the counter and not registered on any exchange? This is another crisis waiting to happen.

The global banking and monetary system is riddled with incentives to suppress the truth and the corrupting influence pervades the media, politics and public institutions. A primary example of how this manifests itself is the climate change agenda.

4.4 Climate Change

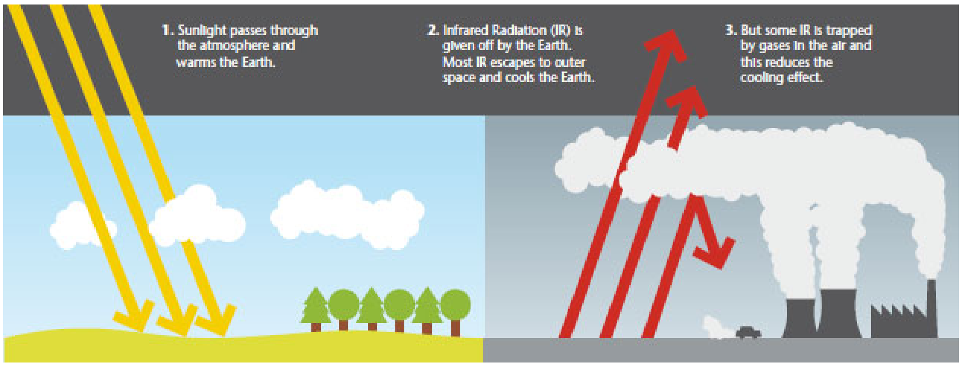
To understand how climate change became such a burning issue, we need to explore its origins and follow the development of the structural incentives which have obscured the truth about the current state of climate science.

When scientists looked at data in the 1970s and 80s, there appeared to be a rough correlation between rising CO^2 emissions and increasing global temperatures. Correlation is not necessarily causation but nonetheless it warranted further study not least because in the laboratory, CO2 absorbed shortwave radiation at certain frequencies and it was plausible that increasing atmospheric CO^2 could be driving driving temperatures. So far, so good. However, rather than let the scientists continue to explore the hypothesis in relative obscurity, the International Panel on Climate Change (IPCC) was formed to oversee international coordination of climate research to establish whether human induce global warming was real and to recommend strategies to mitigate its impacts if it proved to be so. This was the first structural incentive to perpetuate the hypothesis, irrespective of its veracity. If there was no evidence to support the theory, the IPCC would have no reason to exist. Along with the establishment of the IPCC came $billions from governments to fund climate related research and to promote man-made global warming alarmism. Where did this money come from? Government debt. Any scientist proposing a study related to proving and promoting the notion of man-made global warming, no matter how tenuous the link, was generously funded. On the back of government backed investment we have a growing climate change industry which would collapse should the truth emerge. The media are generating sensationalist news stories of impending climatic Armageddon, none of which stand up to scientific scrutiny. We'll come to where the banks are making money from all this.

First let's look at the science, not as portrayed by the IPCC, politicians, media and the climate change industry which is based on flawed climate models and manipulated temperature records but at the real world scientific evidence which contradicts the man-made global warming theory. Evidence that you have likely not seen because contrary evidence is suppressed, dismissed or ignored by the IPCC, politicians and most media.

4.4.1 No evidence of hot-spots in the troposphere

The UK Met Office describes the Anthropogenic Global Warming (AGW) hypothesis as follows: "It is now clear that man-made greenhouse gases are causing climate change. The rate of change began as significant, has becoming alarming and is simply unsustainable in the long term" and the greenhouse effect is depicted on their website thus:

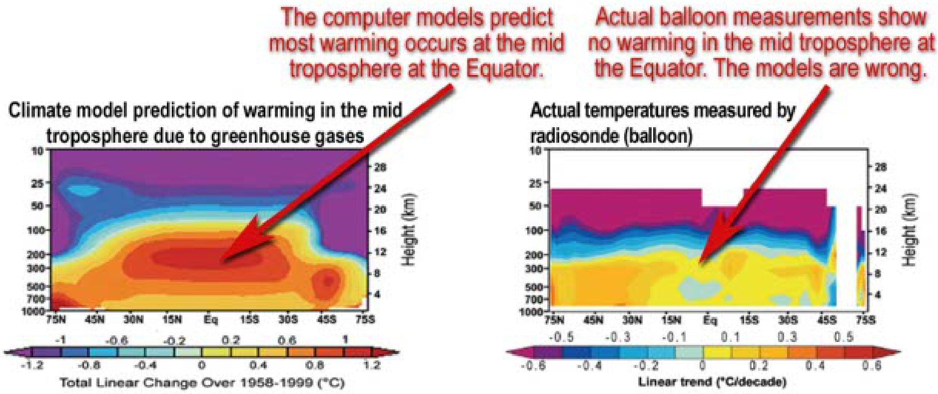


Solar rays (short wave radiation) hit the earth and heat up the surface (as shown on the left). The earth's surface emits infra-red radiation back in to space thereby cooling the planet (depicted by two of the red arrows in the right hand picture). Greenhouse gases in the troposphere trap some of the infra-red rays reflecting heat back down to the surface. The AGW theory suggests that increased CO^2 concentration in the atmosphere, caused by humans, is raising global temperatures.

For the theory to hold true, the observable rate of temperature increase would be higher in the troposphere than at the earth's surface. The rate of temperature increase would be most noticeable in the tropics because that is where the surface would be radiating the most heat.

Yet the observations, from radiosonde (weather balloons) have consistently shown that not to be the case:[3]

[3]The Missing Hotspot, Dr David Evans, last revision, 18 Sept 2010



The left hand picture is the climate model prediction of warming in the mid troposphere due to greenhouse gases from 1958 to 1999. The computer models predict most warming occurs at the mid troposphere at the Equator. The right hand picture shows actual temperatures measured over the same period by radiosonde (weather balloon). Actual balloon measurements show no increase in the rate of warming in the mid troposphere at the Equator. Nor do satellite data since 1979. So contrary to the flawed climate model predictions, there is no evidence of hot-spots in the troposphere and none of the scientific papers supporting the AGW theory have claimed to have found such evidence.

In short the AGW theory is not borne out by the evidence. Had the AGW hypothesis been subject to proper scientific scrutiny, the failure to substantiate this fundamental premise (of increased warming in the troposphere over the Equator) would have rendered the man-made global warming theory invalid.

This contrary evidence has been hidden by the IPCC and the media. Consequently, most people have no idea that by this one piece of evidence, the man-made global warming theory is discredited and invalid.

4.4.2 CO^2 and global temperatures

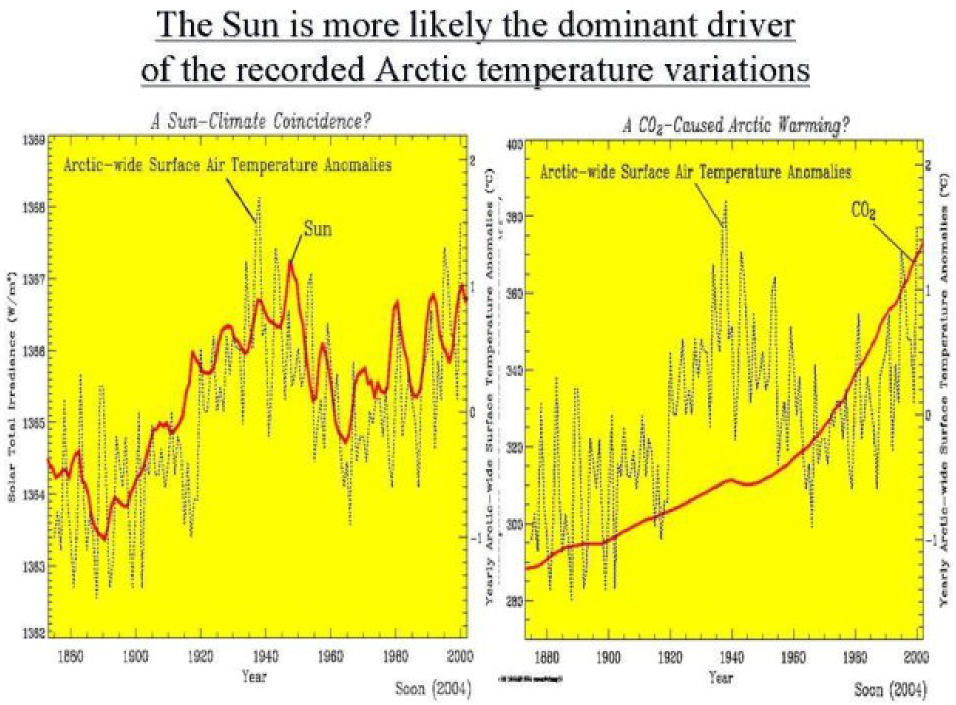
There is a correlation, over the last 800,000 years, of CO^2 concentrations in the atmosphere with global temperatures. Furthermore it is generally agreed that hitherto, the rise in temperatures preceded the rise in CO^2 levels by around 800 years. Warmer oceans release more CO^2 into the atmosphere than is absorbed. When the oceans cool, more CO^2 is absorbed than released. However, the IPCC and the pro-global warming lobby insist that it is now CO^2 which is driving the rise in temperature with no hard evidence to support this illogical premise. On the contrary, temperatures rose fairly rapidly from about 1900 to 1940 but then declined until the late 1970s during a period when CO^2 emissions were rising in the post-war industrial boom. According to satellite data, following peak temperatures in the late 1990s, temperatures have ceased rising in spite of a further increase in CO^2 emissions.

- 95% of greenhouse gas is water vapour, CO^2 is a relatively minor constituent making a marginal contribution to the greenhouse system. There is no evidence to support the claimed feedbacks from increased CO^2concentrations in the atmosphere.

- Laboratory studies show that rises in CO^2 concentrations have a warming influence but that it is logarithmic, ie. the first 20 parts per million have the most effect but thereafter the influence wanes to negligible by the time the current 392 parts per million are reached. CO^2 concentrations have been much higher in the past.

- CO^2 is beneficial for promoting plant growth which is important if we are to feed the growing global human population without destroying our environment. Dutch growers buy CO^2 to increase concentrations in their greenhouses to increase crop yields.

Finally, while acknowledging that the earth's climate is a complex system with millions of variables, the correlation between solar activity and temperature appears much more compelling:



The advantage of using Arctic temperature data is they are unlikely to be affected by the Urban Heating Island effect: many, once isolated, land based temperature recording stations are now within urban environments which accentuate the warming trend.

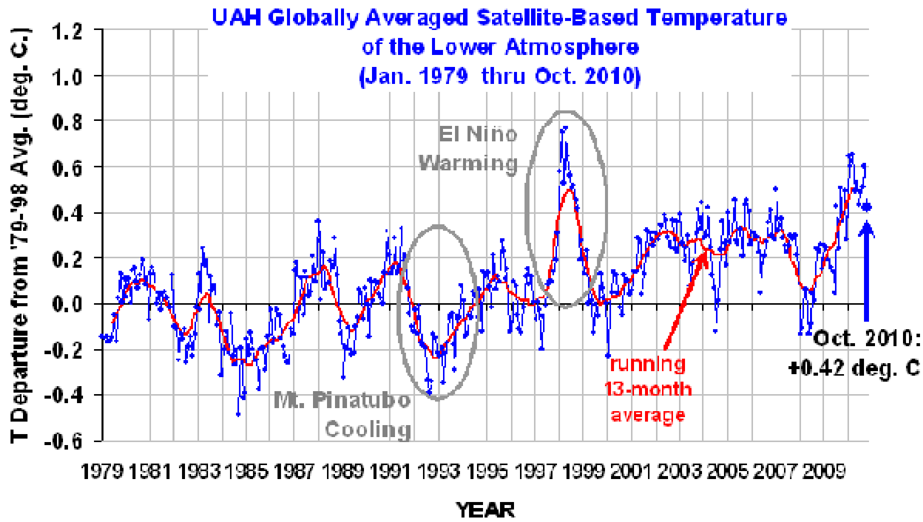
Clearly, CO^2 is not correlated with temperature as was first assumed.

4.4.3 Corruption of science

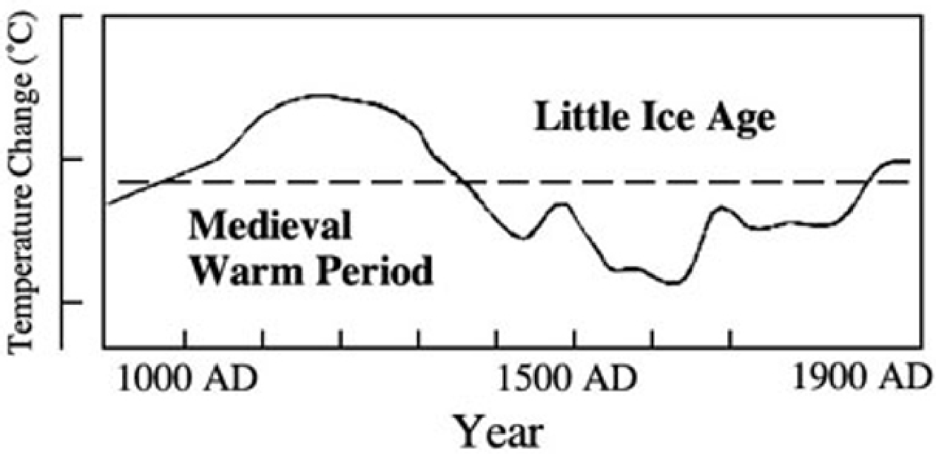
If there is no real world evidence of increased CO2 in the atmosphere driving temperatures, how is the myth perpetuated?

First we have the recorded land surface temperature record used as proof of man-made global warming. Remember four fifths of the globe's surface is water so land temperature records couldn't provide a global temperature record, even if they covered every land mass on the planet. We're talking about recorded temperatures over about 150 years, initially from a small number of stations in the Northern Hemisphere. Furthermore, many stations have been subject to "urban heat island" effect. Once remote rural temperature recording stations are, in many cases, now in built up areas with some being sited near air conditioning exhausts. This has created a warming bias in the temperature record. Other inconsistencies in the data have arisen, such as in the former USSR, where cold weather subsidies meant temperatures were recorded as being lower than measured, further accentuating the perceived subsequent warming.

The best data available on global temperatures is from satellites since 1979. They show warming to a peak in 1998 but nothing conclusive since.

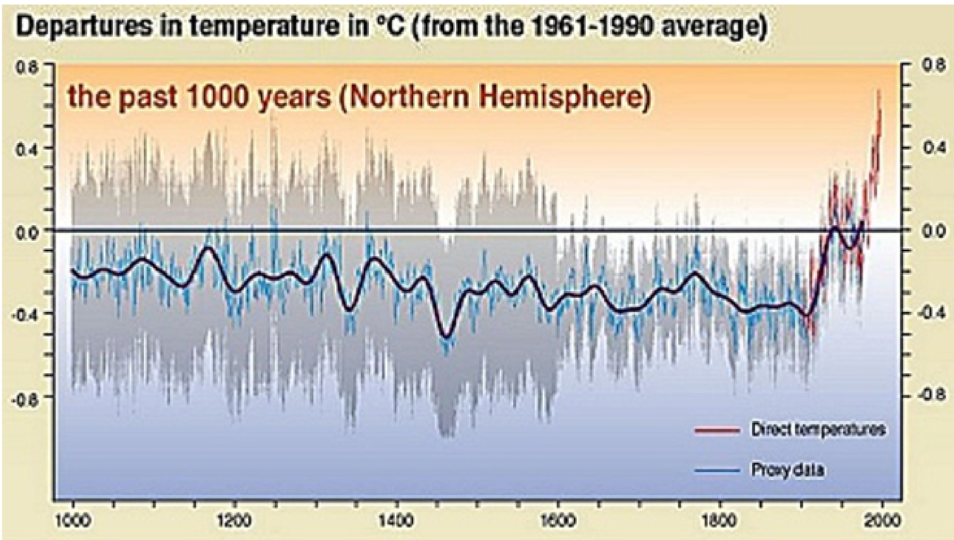


However 30 years in the current interglacial period (from around 10,000 years ago) is an eye blink and tells us very little. We need to consider temperature changes over a much longer time frame.



The first IPCC Assessment Report in 1991 contained the HH Lamb graph of temperatures over the last 1,000 years which accords with our understanding of the Medieval Warm Period (MWP) and the subsequent Little Ice Age (LIA) and for which there is ample anecdotal and archaeological evidence: the Vikings settled and farmed in Greenland from about 980 to 1400AD over the MWP; the settlements collapsed with the onset of the LIA; burial sites have been found in the permafrost; Pepys wrote of the Great Frost Fair of 1683 and skating on the Thames when the river and surrounding estuary froze for weeks over winter. That temperatures have been rising since end of the LIA (c.1820) is neither surprising nor alarming.

Clearly, Lamb's graph wasn't going to convince us of the urgent need to reduce our CO2 emissions and for the Third Assessment Report in 2001, the IPCC came up with the Hockey Stick based on proxy data (such as tree rings).



This was produced in a paper (MBH98) by Michael Mann and others, claiming that the 1990s was the hottest decade of the millennium. A retired geologist and mathematician, Steve McIntyre, together with Ross McKitrick, an economics professor and statistician, set out to replicate Mann's work but found statistical errors and evidence of manipulation of data to produce the hockey stick. Subsequently, the Wegman Committee, appointed by the US Senate to adjudicate on the hockey stick, found in favour of McIntyre and McKitrick, confirmed the flaws and repudiated the claim that the 1990s was the hottest decade of the last 1,000 years. A 2010 paper by McShane and Wyner, two statisticians, demonstrates why the original and subsequent versions of the hockey stick are flawed and not a reliable guide to global temperatures. No evidence suggests recent temperatures are unprecedented; on the contrary, there is circumstantial evidence that temperatures have been higher in the past and possibly as recently as the 1940s.

In 2009, just before the Copenhagen Climate Convention, Climategate broke which involved documents and emails from the University of East Anglia's Climatic Research Unit (CRU) being released on to the internet. These exposed collusion and manipulation of data to produce hockey stick graphs. Michael Mann and Phil Jones, the head of CRU, resisted requests from other scientists for data, methodologies and programs, in direct contravention of the scientific method and the Freedom of Information Act in the UK. By now "human induced climate change" was so embedded that the three UK investigations into the scandal ensured the truth remained hidden and the AGW gravy train on the tracks with the UEA continuing to receiving funding for its dubious climate research. Two years later another larger batch of emails were released on to the internet which further exposed the level of corruption amongst the narrow coterie of climate scientists who had become de facto evangelists for the man-made global warming movement.

4.4.4 Scientific consensus

We are constantly told the scientific consensus is endorsed by 98 percent of climate scientists throughout the world. But, in the run up to the Copenhagen Climate Conference, 166 highly qualified climate specialists wrote to UN Secretary General, Ban Ki Moon, stating "Truly, the science is NOT settled":

> Open Letter to UN Secretary-General
>
> His Excellency Ban Ki Moon Secretary-General, United Nations New York, NY United States of America December 8, 2009
>
> Dear Secretary-General,
>
> Climate change science is in a period of 'negative discovery' – the more we learn about this exceptionally complex and rapidly evolving field the more we realize how little we know. Truly, the science is NOT settled.
>
> Therefore, there is no sound reason to impose expensive and restrictive public policy decisions on the peoples of the Earth without first providing convincing evidence that human activities are causing dangerous climate change beyond that resulting from natural causes. Before any precipitate action is taken, we must have solid observational data demonstrating that recent changes

in climate differ substantially from changes observed in the past and are well in excess of normal variations caused by solar cycles, ocean currents, changes in the Earth's orbital parameters and other natural phenomena.

We the undersigned, being qualified in climate-related scientific disciplines, challenge the UNFCCC and supporters of the United Nations Climate Change Conference to produce convincing OBSERVATIONAL EVIDENCE for their claims of dangerous human-caused global warming and other changes in climate. Projections of possible future scenarios from unproven computer models of climate are not acceptable substitutes for real world data obtained through unbiased and rigorous scientific investigation.

Specifically, we challenge supporters of the hypothesis of dangerous human-caused climate change to demonstrate that:

1. Variations in global climate in the last hundred years are significantly outside the natural range experienced in previous centuries;

2. Humanity's emissions of carbon dioxide and other 'greenhouse gases' (GHG) are having a dangerous impact on global climate;

3. Computer-based models can meaningfully replicate the impact of all of the natural factors that may significantly influence climate;

4. Sea levels are rising dangerously at a rate that has accelerated with increasing human GHG emissions, thereby threatening small islands and coastal communities;

5. The incidence of malaria is increasing due to recent climate changes;

6. Human society and natural ecosystems cannot adapt to foreseeable climate change as they have done in the past;

7. Worldwide glacier retreat, and sea ice melting in Polar Regions , is unusual and related to increases in human GHG emissions;

8. Polar bears and other Arctic and Antarctic wildlife are unable to adapt to anticipated local climate change effects, independent of the causes of those changes;

9. Hurricanes, other tropical cyclones and associated extreme weather events are increasing in severity and frequency;

> 10. Data recorded by ground-based stations are a reliable indicator of surface temperature trends.
>
> It is not the responsibility of 'climate realist' scientists to prove that dangerous human-caused climate change is not happening. Rather, it is those who propose that it is, and promote the allocation of massive investments to solve the supposed 'problem', who have the obligation to convincingly demonstrate that recent climate change is not of mostly natural origin and, if we do nothing, catastrophic change will ensue. To date, this they have utterly failed to do.
>
> Signed by:
>
> Science and Technology Experts Well Qualified in Climate Science (a full list of signatories is available at http://www.copenhagenclimatechallenge.org)

It is often claimed that 3,000 climate experts support the IPCC consensus. John McLean conducted a study analysing the authors and reviewers of the IPCC reports and found that only about 60 could be said to have explicitly supported the claims about a significant human influence on climate.

The scientific papers underpinning the IPCC reports do not add up to a consensus but once the small number of scientists and apparatchiks, who support the man-made warming theory, write the Summary for Policy Makers, uncertainties are expunged and contradictory evidence is ignored, dismissed or suppressed (the latest Summary, AR4 in 2007, was written before all the scientific papers were submitted). By the time Rajendra Pachaudrey, the IPCC chairman, goes public with baseless alarmist claims, the illusion of consensus is complete as the mainstream media pick up climate change stories of drought in Africa, drowning polar bears and disappearing glaciers, none of which stand up to scientific scrutiny.

We are further told that all the major scientific institutions endorse the consensus. In the same way that the IPCC Report Summary for Policy Makers filters out dissent, so do the management boards of the major scientific institutions. Take the case of Hal Lewis, Professor and Chairman of Physics at the University of California, Santa Barbara, who resigned from the American Physical Society with the following:

> Sent: Friday, 08 October 2010 17:19 Hal Lewis
>
> From: Hal Lewis, University of California, Santa Barbara
>
> To: Curtis G. Callan, Jr., Princeton University, President of the American Physical Society 6 October 2010
>
> Dear Curt:

When I first joined the American Physical Society sixty-seven years ago it was much smaller, much gentler, and as yet uncorrupted by the money flood (a threat against which Dwight Eisenhower warned a half-century ago).

Indeed, the choice of physics as a profession was then a guarantor of a life of poverty and abstinence—it was World War II that changed all that. The prospect of worldly gain drove few physicists. As recently as thirty-five years ago, when I chaired the first APS study of a contentious social/scientific issue, The Reactor Safety Study, though there were zealots aplenty on the outside there was no hint of inordinate pressure on us as physicists. We were therefore able to produce what I believe was and is an honest appraisal of the situation at that time. We were further enabled by the presence of an oversight committee consisting of Pief Panofsky, Vicki Weisskopf, and Hans Bethe, all towering physicists beyond reproach. I was proud of what we did in a charged atmosphere. In the end the oversight committee, in its report to the APS President, noted the complete independence in which we did the job, and predicted that the report would be attacked from both sides. What greater tribute could there be?

How different it is now. The giants no longer walk the earth, and the money flood has become the raison d'être of much physics research, the vital sustenance of much more, and it provides the support for untold numbers of professional jobs. For reasons that will soon become clear my former pride at being an APS Fellow all these years has been turned into shame, and I am forced, with no pleasure at all, to offer you my resignation from the Society.

It is of course, the global warming scam, with the (literally) trillions of dollars driving it, that has corrupted so many scientists, and has carried APS before it like a rogue wave. It is the greatest and most successful pseudo-scientific fraud I have seen in my long life as a physicist. Anyone who has the faintest doubt that this is so should force himself to read the Climategate documents, which lay it bare. (Montford's book organizes the facts very well.) I don't believe that any real physicist, nay scientist, can read that stuff without revulsion. I would almost make that revulsion a definition of the word scientist.

So what has the APS, as an organization, done in the face of this challenge? It has accepted the corruption as the norm, and gone along with it. For example:

1. About a year ago a few of us sent an e-mail on the subject to a fraction of the membership. APS ignored the issues, but the then President immediately launched a hostile investigation of where we got the e-mail addresses. In its better days, APS used to encourage discussion of important issues, and indeed the Constitution cites that as its principal purpose. No more. Everything that has been done in the last year has been designed to silence debate

2. The appallingly tendentious APS statement on Climate Change was apparently written in a hurry by a few people over lunch, and is certainly not representative of the talents of APS members as I have long known them. So a few of us petitioned the Council to reconsider it. One of the outstanding marks of (in)distinction in the Statement was the poison word incontrovertible, which describes few items in physics, certainly not this one. In response APS appointed a secret committee that never met, never troubled to speak to any skeptics, yet endorsed the Statement in its entirety. (They did admit that the tone was a bit strong, but amazingly kept the poison word incontrovertible to describe the evidence, a position supported by no one.) In the end, the Council kept the original statement, word for word, but approved a far longer "explanatory" screed, admitting that there were uncertainties, but brushing them aside to give blanket approval to the original. The original Statement, which still stands as the APS position, also contains what I consider pompous and asinine advice to all world governments, as if the APS were master of the universe. It is not, and I am embarrassed that our leaders seem to think it is. This is not fun and games, these are serious matters involving vast fractions of our national substance, and the reputation of the Society as a scientific society is at stake.

3. In the interim the ClimateGate scandal broke into the news, and the machinations of the principal alarmists were revealed to the world. It was a fraud on a scale I have never seen, and I lack the words to describe its enormity. Effect on the APS position: none. None at all. This is not science; other forces are at work.

4. So a few of us tried to bring science into the act (that is, after all, the alleged and historic purpose of APS), and collected the necessary 200+ signatures to bring to the Council a

proposal for a Topical Group on Climate Science, thinking that open discussion of the scientific issues, in the best tradition of physics, would be beneficial to all, and also a contribution to the nation. I might note that it was not easy to collect the signatures, since you denied us the use of the APS membership list. We conformed in every way with the requirements of the APS Constitution, and described in great detail what we had in mind—simply to bring the subject into the open.

5. To our amazement, Constitution be damned, you declined to accept our petition, but instead used your own control of the mailing list to run a poll on the members' interest in a TG on Climate and the Environment. You did ask the members if they would sign a petition to form a TG on your yet-to-be-defined subject, but provided no petition, and got lots of affirmative responses. (If you had asked about sex you would have gotten more expressions of interest.) There was of course no such petition or proposal, and you have now dropped the Environment part, so the whole matter is moot. (Any lawyer will tell you that you cannot collect signatures on a vague petition, and then fill in whatever you like.) The entire purpose of this exercise was to avoid your constitutional responsibility to take our petition to the Council.

6. As of now you have formed still another secret and stacked committee to organize your own TG, simply ignoring our lawful petition.

APS management has gamed the problem from the beginning, to suppress serious conversation about the merits of the climate change claims. Do you wonder that I have lost confidence in the organization?

I do feel the need to add one note, and this is conjecture, since it is always risky to discuss other people's motives. This scheming at APS HQ is so bizarre that there cannot be a simple explanation for it. Some have held that the physicists of today are not as smart as they used to be, but I don't think that is an issue. I think it is the money, exactly what Eisenhower warned about a half-century ago. There are indeed trillions of dollars involved, to say nothing of the fame and glory (and frequent trips to exotic islands) that go with being a member of the club. Your own Physics Department (of which you are chairman) would lose millions a year if the global warming bubble burst. When Penn

State absolved Mike Mann of wrongdoing, and the University of East Anglia did the same for Phil Jones, they cannot have been unaware of the financial penalty for doing otherwise. As the old saying goes, you don't have to be a weatherman to know which way the wind is blowing. Since I am no philosopher, I'm not going to explore at just which point enlightened self-interest crosses the line into corruption, but a careful reading of the ClimateGate releases makes it clear that this is not an academic question.

I want no part of it, so please accept my resignation. APS no longer represents me, but I hope we are still friends.

Hal

4.4.5 Global warming is over for now

According to NASA's satellite data, sea levels show a 6mm decline in 2010 and AMSR-E Global Sea Surface Temperature Variations indicate that oceans are cooling. Studies, by three separate teams from the National Solar Observatory and the Air Force Research Laboratory, are suggesting the next solar cycle (25) will be similar to the Dalton or Maunder Minima. These minima occurred during the Little Ice Age which saw temperatures plunge after the relatively high temperatures of the Medieval Warm Period. Scientists studying oceans demonstrate that the recent warming, to the end of the last century, is part of the natural cycle of oceanic oscillations and predict a thirty year cooling phase. The CLOUD experiment at CERN suggests that all the warming of the late twentieth century could be accounted for by a small percentage reduction of reflective cloud cover (albedo) – more of the sun's rays reached the earth, warming the planet. Indications are that albedo is growing once more. Clearly, the computer climate models on which climate alarmism is based are flawed because they fail to model these natural processes correctly.

4.4.6 Follow the money

It is often claimed that climate "deniers" are funded by big oil, coal or right wing extremists. It's true that many on the right see the global warming scam as a socialist plot. However, the traditional polluters are well placed to capture the "climate change" dollar: from consumers in higher energy prices; from taxpayers in the form of subsidies for renewable energy and carbon capture; and from carbon credits and carbon trading.

Man-made global warming sceptics and "deniers" are a vilified minority comprising scientists and the intellectually curious, many of whom, have little or no financial support for their interest in climate science. Furthermore, sceptics are swimming against the tide of the mainstream media and subject to ridicule and attack. It is the climate change lobby that has the most financial, political and media fire power. And why does it have this power? Because billions of dollars have been committed by the US government and others, to promote the idea we are destroying our planet through carbon emissions. Money that could have been spent developing clean energy from a variety of sources and protecting the environment from real threats such as deforestation, ground water pollution and depletion, environmentally damaging mining and drilling etc. We now have a climate change industry which will collapse when the truth emerges, hence the need to suppress the truth at any cost.

But what of the cure for this mythical problem of CO2 emissions? What impact studies have there been into the consequences of inappropriate climate change policies? Very few. Yet, renewable energy subsidies are contributing to higher energy prices, driving millions into fuel poverty. In a cooler climate, things can only get worse if we deny ourselves energy from fossil fuels. Germany is paying lip service to a carbon free future while gaining subsidies from the rest of Europe to increase power generation from brown coal (lignite) at the expense of solar power. Since the Fukiyama earthquake and nuclear disaster, Germany has decided to abandon nuclear power and is committing resources earmarked for renewable energy projects to build even more coal fired power plants. Reality trumps mythology. Meanwhile, the establishment of eucalyptus carbon sinks has driven indigenous communities from their land and destroyed ancient forests. Hunger and malnutrition are on the rise, as higher energy costs and subsidies for biofuels have driven up food prices.

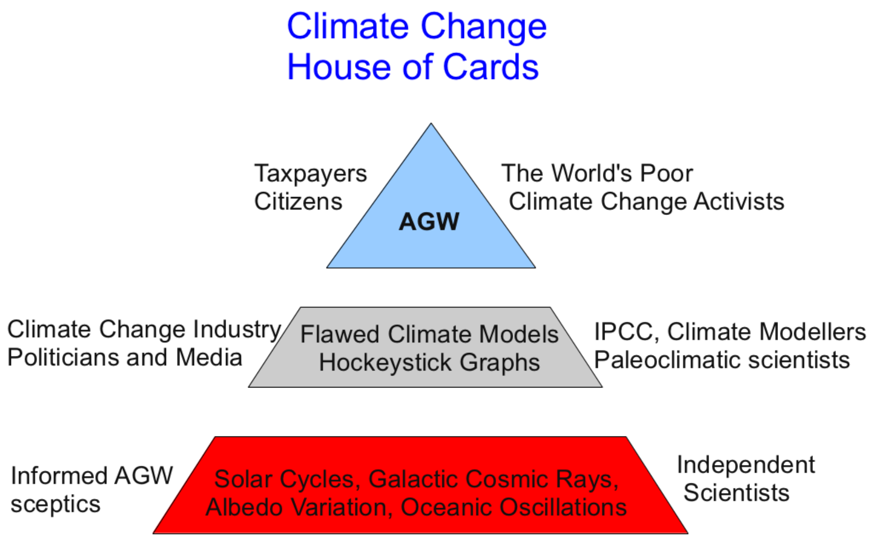
Solar and wind power are unlikely to constitute significant, viable, alternative energy sources. Spain has already begun to remove subsidies for solar power driving those who'd used their land to invest in solar farms, into bankruptcy. Increasing reflective cloud cover renders solar power ineffective for many countries. Wind turbines are expensive, inefficient, unreliable and have a devastating environmental impact due to: the rare earths and materials to manufacture them, the 200 tons of concrete for the foundations, the service access roads for maintenance and the effect on birds and other wildlife. Geothermal energy may contribute to the energy mix but would you really want to sink a deep bore hole into the San Andreas fault? Sure, we need to seek alternative energy sources but they need to be practical and viable. Vinod Khosla, a venture capitalist, is backing many alternative energy technologies. Nikola Tesla, credited with many inventions including wireless transmission of electricity, was convinced we could generate free electricity from the ionosphere. Nuclear fusion would be an immeasurably preferable source of energy to nuclear fission. As there is no climate crisis we can develop rational solutions rather than rushing into technologies which waste resources and steal from the poor.

Proposals to combat the illusion of climate change constitute a transfer of wealth from the poor to the rich as energy prices are driven ever higher. Until Generation Investment Management sold its stake in the Chicago Climate Exchange, Al Gore, Generation's Chairman, was no doubt expecting to clean up on global carbon trading; the Chicago Exchange also owns the European Climate Exchange. The stake was sold because without legislation to mandate cap and trade, interest in carbon trading on the Chicago exchange evaporated and carbon credits were flat-lining until trading ceased at the end of 2010. The carbon price in Europe is artificially maintained by European regulation. Already multi-million dollar frauds in carbon trading have been committed.

Loans to developing nations meet the challenges of climate change. *evidence*

The man-made climate change or anthropogenic global warming (AGW) theory is dependent on the IPCC's flawed climate models and discredited hockey sticks (see Fig. 5 Climate Change House of Cards). The IPCC, the media and others have suppressed, dismissed or ignored contradictory evidence. By the scientific method, the onus of proof of the AGW theory is on the IPCC and there is none.

Let's examine why so many have so much to lose should the truth be faced – the "collusion of interests."



The IPCC's mission is to assess "human induced climate change". No AGW theory, no IPCC. Its chairman, Rajendra Pachaudrey, has interests which benefit from his role in the IPCC. The palaeoclimatologist community (which created the hockey-stick) and climate modellers support the IPCC agenda; they are funded accordingly. Those who, like Al Gore, have staked their political credentials on the AGW theory stand to lose credibility and possibly their jobs. More importantly, we now have a multi-billion dollar climate change industry reaching out into every branch of the economy – big Al, for one, hopes to make big money from climate change investments. Should the theory be abandoned anyone involved has something to lose. These structural incentives to obscure the truth, irrespective of the integrity of individuals, are not dissimilar to those prevailing in the pre-crash sub-prime market.

Earth's climate is a natural, chaotic, cyclical system which responds to solar cycles and oceanic oscillations. The preoccupation with proving CO2 emissions cause global warming has been such that, we only have a limited understanding of these natural processes. If the predictions of cooling come to pass, our children and future generations face unprecedented hardship unless we tear down the walls of the man-made climate change establishment. This is not denial but reality. Like the sub-prime mortgage market, the global warming party is over!

Chapter 5

Regulation doesn't work!