

Banking, Sustainability and Policy Implications

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Are Bank-Based Economic Systems Sustainable in the Long-Run?

- 1. They operate by charging interest, which requires growth**
- 2. But what is economic growth? Does it exist?**
- 3. Interest without 'growth'**
- 4. The solution: 'Growth' without interest**

1. Interest-Based Economics

- **Interest = Usury**
- **Usury was condemned and forbidden by all major religions and ancient philosophers (Old Testament, Koran, Hindu Sutra, Buddhist Jatakas, Plato, Aristoteles, etc.)**
- **Can economies do without interest?**
- **Sure, until about 300 years ago interest was forbidden in all of Europe**
- **Why do we consider interest so indispensable in economics?**

Justifications of Interest in Economics

1. **Opportunity Costs:** The lender must be compensated for foregone alternatives.
2. **Time Preference** (Carl Menger, 1871; Böhm-Bawerk, 1891): Transfer of consumption opportunities from savers to consumers
3. **Marginal Cost of Capital:** Factors of production are paid their marginal productivity. Capital is paid interest of such an amount.
4. **Uncertainty requires a risk premium** (Böhm-Bawerk, 1891; Schumpeter, 1912)
5. **Liquidity Preference, Precautionary Demand for Money** (Keynes, 1936):
“the rate of interest is the reward for parting with liquidity for a specified period.”
(Keynes, 1936)
6. **Monitoring Fee** to be paid to the financial sector (Schumpeter, 1912)
7. Interest equilibrates the money/credit/capital markets and determines economic growth. Thus it is the **most important monetary policy tool**. (Wicksell, 1898; Woodford, 2003)

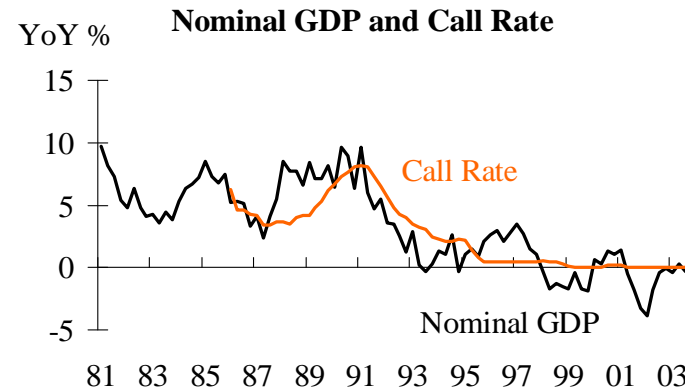
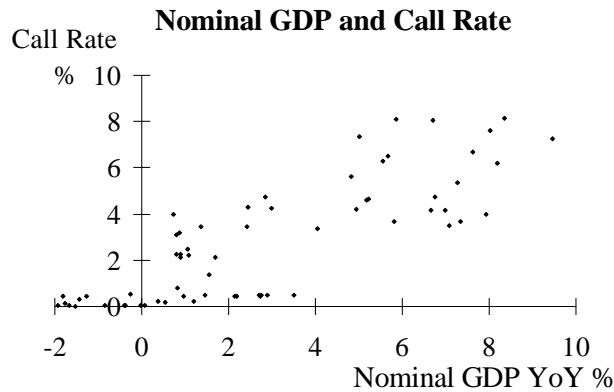
Interest and Growth: The Official Story

- **“Low or falling interest stimulates economic growth; high or rising interest slows growth.”**
- **“Interest is thus negatively correlated with economic growth.”**
- **“Interest is the cause, growth the effect.”**
- **“Thus interest is the key monetary policy tool.”**

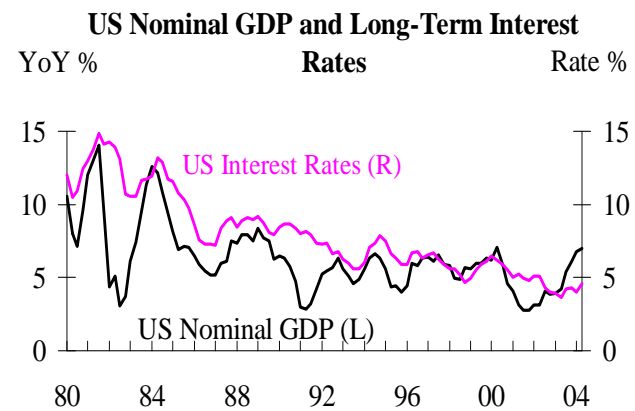
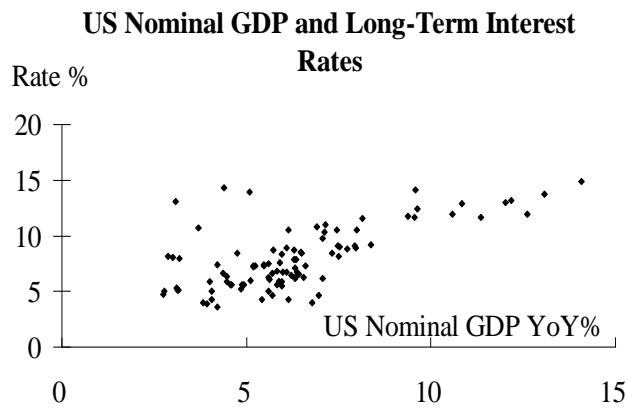
There is no empirical evidence for the official story

The Facts:

Japan



US

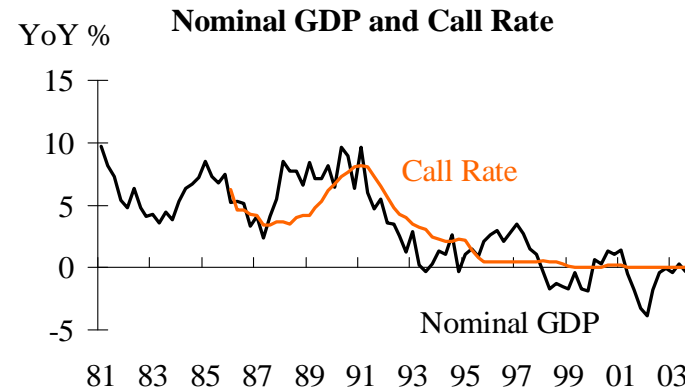
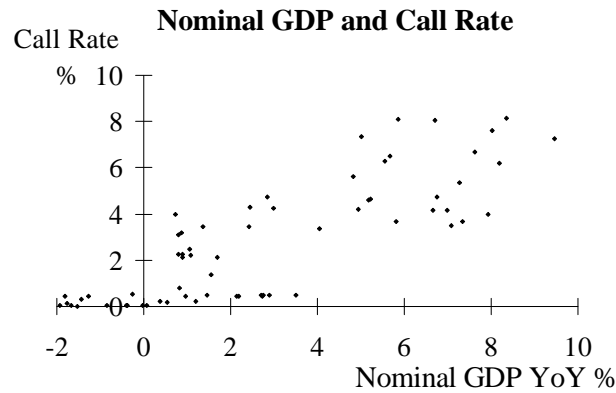


The Facts:

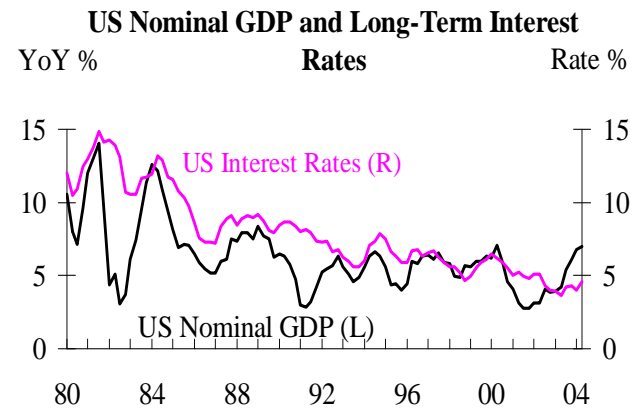
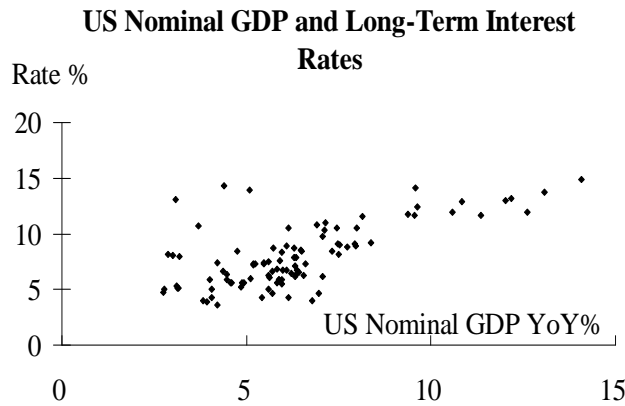
Interest is not negatively, but positively correlated with economic growth

- True for long-term, short-term, real or nominal interest

Japan



US



Cognitive Dissonance: Myth and Reality

- Myth: *"Interest reductions stimulate growth;
Interest rises slow growth."*

- Reality: **Higher growth raises interest rates**
Lower growth lowers interest rates

- Interest rates are the **result** – and hence cannot be the cause.

- Interest does not determine growth, but growth determines interest.

- The facts are diametrically opposed to the official story of how monetary policy works.

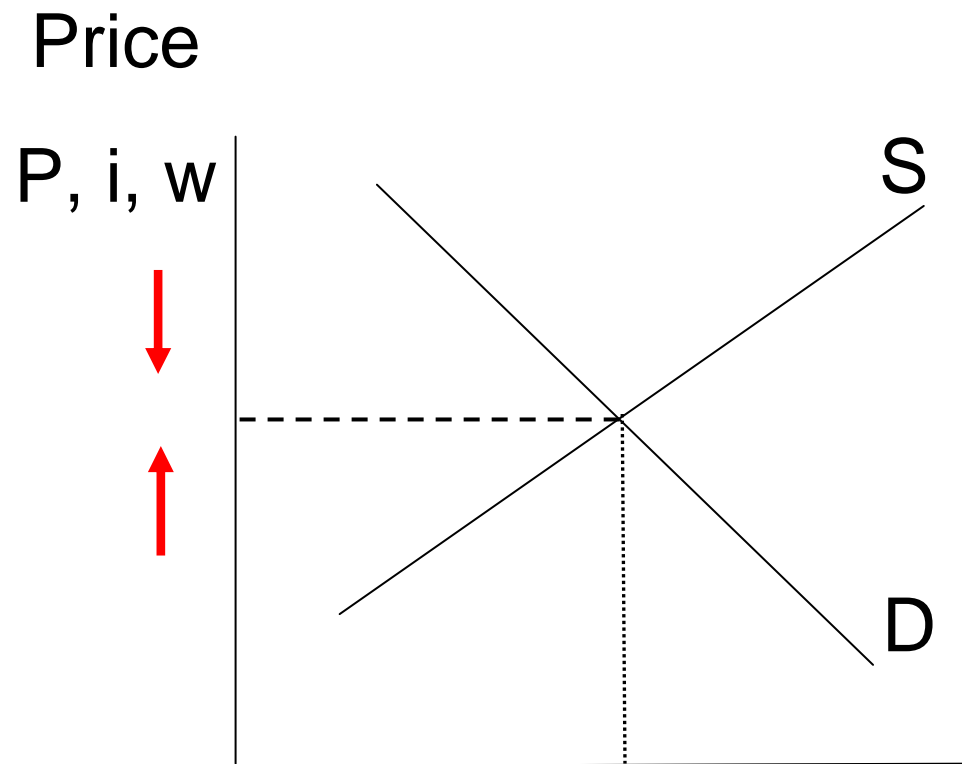
- This raises some questions: **What determines growth then?**
**Why do central banks claim that interest rates are the
key tool of their monetary policy?**

Where does the interest rate theory come from?

- It was not derived from empirical facts.
- Interest is considered as the ‘price of money’.
- Conventional economics claims that prices are the key determinant
- Just like in the best-known diagramme in economics:

The Theory of Equilibrium

Equilibrium is obtained where demand and supply curves intersect

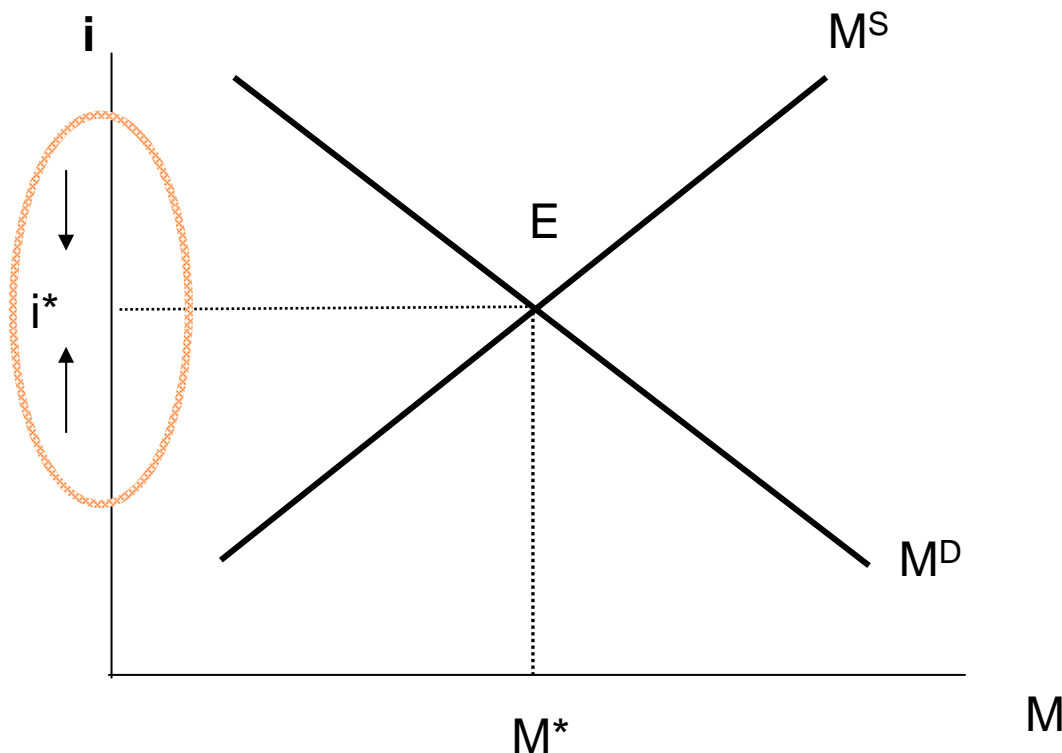


- How do we get there?
- “**Prices move** to establish equilibrium.”
- “Thus **prices are the key variable**. This also applies to money and its price (interest).”
- “Central banks **only need to determine the price of money**, since this is uniquely linked to one quantity of money.”

Quantity
Q, M, C, L

The Theory of Equilibrium

The equilibrium-story is pure theory. It is not based on empirical facts.



Fact: Equilibrium is possible **if and only if** a long list of **assumptions jointly hold:**

1. Perfect information
2. Complete markets
3. Perfect competition
4. Zero transaction costs
5. Utility maximisation by rational, selfish agents
6. Prices adjust instantaneously
7. Everyone is a price-taker

What Economics Has Actually Demonstrated



Impression:

Economics has proven that prices move so that demand is equilibrated with supply.



Reality:

Economics has proven that **on our planet** (where the necessary assumptions do not hold individually, let alone jointly) there **cannot be market equilibrium nor general equilibrium.**

The Reality of Rationing

- No market is in equilibrium. **All markets are rationed.**
- **Quantities** are thus more important than prices.
- The smaller quantity of demand and supply determines the market outcome and exercises **allocation power**.
- It is bureaucratic allocation decisions that determine economic outcomes, not the alleged 'market forces' and their 'price mechanism'. Think of 50 applicants for a job. It will not be given to the one accepting the lowest salary....
- In case of **money** we can quickly find the short-side: there is always demand for money.
- Thus the market is **supply-determined** and the supplier decides who gets money for what purpose.
- **Who supplies the money?**

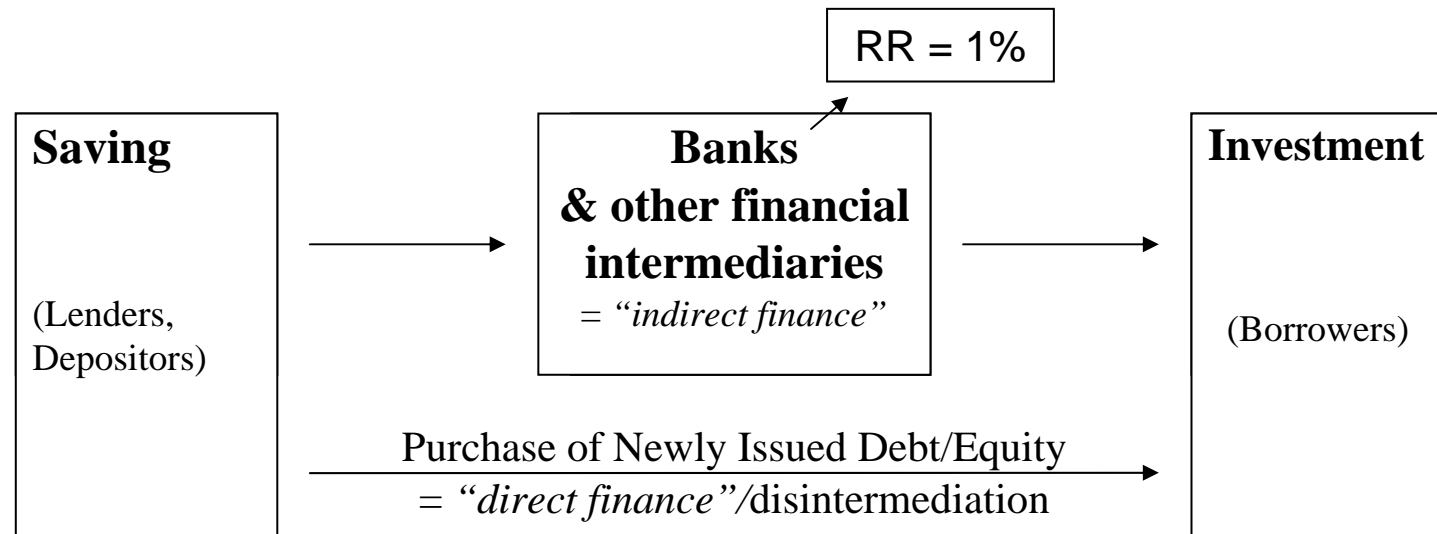
What is Money?

Textbooks and central banks do not define it clearly:

- *“The monetary aggregate is the total quantity of money in an economy. It is much harder to measure than one would have first thought.” “This is because no single asset is used to make all transactions” (p. 119) Chamberlin and Yueh (2006)*
- *“Although there is widespread agreement among economists that money is important, they have never agreed on how to define and how to measure money” (p. 42).*
“Divergences in views about what constitutes money are likely to widen with time” (p. 43).
“The existence of more than one monetary aggregate is itself indicative of the problems defining money entails.” (Miller and Van Hoose, 2004:417)
- Today, even the **Federal Reserve** cannot tell us just what money is:
“there is still no definitive answer in terms of all its final uses to the question: What is money?”

What is the Role of Banks?

Textbook View of Banks as Financial Intermediaries



Thus when the financial crisis hit, the leading economics models and theories **did not include banks** as they were not considered important or special.

What Makes Banks Special?

But empirically, it had been found that **banks are special**

Their function cannot be easily replaced by other financial players or markets.

- Fama (1985) shows that banks must have a kind of monopoly power compared to other financial institutions.
- Ashcraft (2005) shows that the closure of small regional banks significantly hurts the local economy.

But economic theory could not explain why.

Here is why.

Where Does Money Come From?

- Over 80% of the population thinks that it comes from the central bank or the government.
- No money comes from the government.
- Only about 3% of the money supply comes from the central bank.
- Who creates the remaining 97% of our money supply and who allocates this money?

The 'leading' economic journals and textbooks are silent on this.

A: The commercial banks

- This explains why banks are special and pivotal to the economy: They are not financial intermediaries but the main **creator of money**. They have a license to 'print money' by **creating credit *out of nothing***.

Banks Do Not Lend Money

Balance Sheet of Bank A

Step 1 Deposit of \$100 by customer at Bank A

Assets	Liabilities
	\$100

Step 2 \$100 used to increase the reserve of Bank A

Assets	Liabilities
\$100	\$100

Banks Do Not *Lend* Money, They Create it!

Step 3 Loan of \$9,900 granted, by crediting borrower's bank account. Where do the £9,900 come from? From nowhere. The borrower is treated **as if** she/he or the bank had actually deposited the money, but **no money was deposited or transferred from anywhere else.**

Assets	Liabilities
\$100 + \$9,900	\$100 + \$9,900

NB: No money is transferred from elsewhere

There is no such thing as a 'bank loan'.

Banks create money through '*credit creation*'.

This is how 97% of the money supply is created.

Bank Credit Creation: Not in Economics Textbooks, but Admitted by Central Banks:

“The actual process of money creation takes place primarily in banks.”
(Federal Reserve Bank of Chicago, 1961, p. 3);

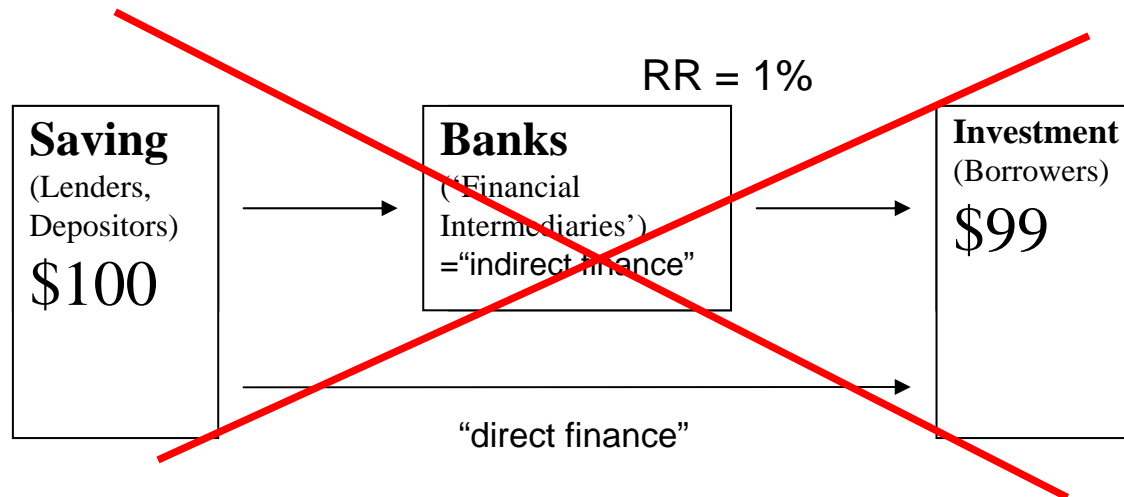
“By far the largest role in creating broad money is played by the banking sector ... When banks make loans they create additional deposits for those that have borrowed.” (Bank of England, 2007)

“Over time... Banknotes and commercial bank money became fully interchangeable payment media that customers could use according to their needs” (ECB, 2000).

“Contemporary monetary systems are based on the mutually reinforcing roles of central bank money and commercial bank monies.” (BIS, 2003).

“The commercial banks can also create money themselves... in the eurosystem, money is primarily created by the extension of credit...” (Bundesbank, 2009)

Banks are Not Financial Intermediaries



They are the **Creators of the Money Supply.**

And they decide who gets the money and for which purpose it is used.

This decision **shapes the economic landscape.**

Banks thus decide over the economic destiny of a country.

Credit creation is the most important macroeconomic variable.

The Quantity Theory of Credit (Werner, 1992, 1997):

money used = value of all market transactions

Money is best measured by its credit counterpart (C) which created it.

Financial transactions are not part of GDP.

If we want to link this to GDP, we must divide money/credit into two streams:

$$C = C_R + C_F$$

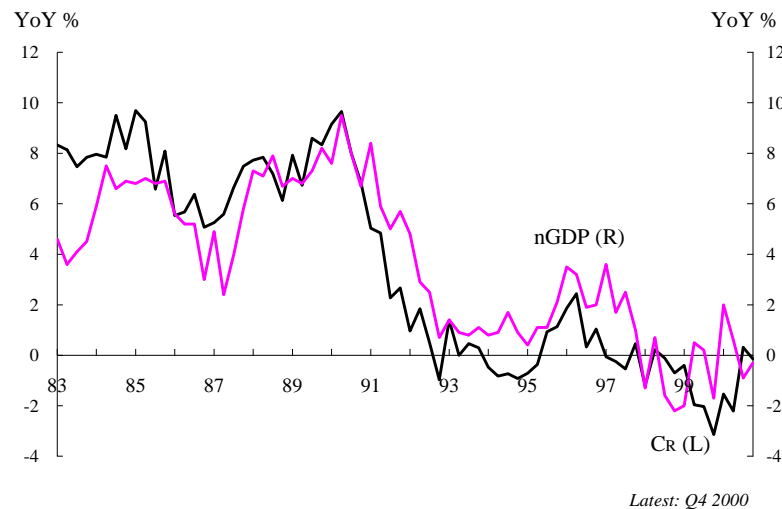
The Quantity Theory of Credit (Werner, 1992, 1997)

$$\Delta(P_R Y) = V_R \Delta C_R$$

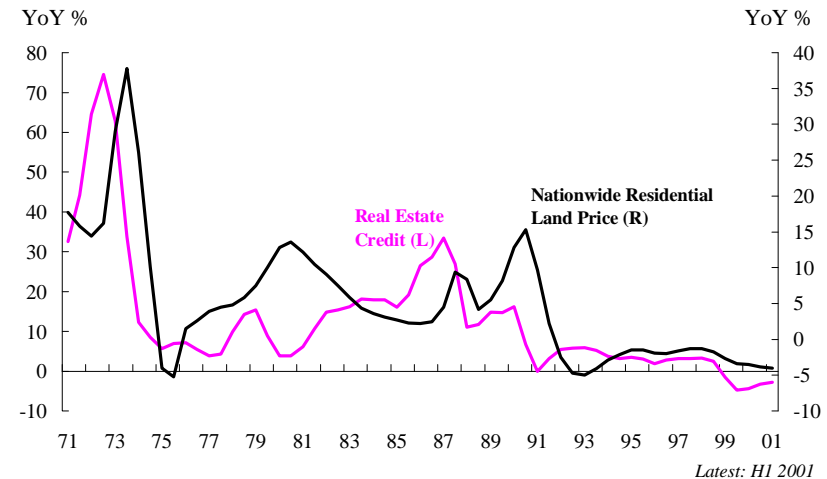
nominal GDP = real economy credit creation

$$\Delta(P_F Q_F) = V_F \Delta C_F$$

asset markets = financial credit creation



Real circulation credit determines
nominal GDP growth



Financial circulation credit determines
asset prices – leads to asset cycles
and banking crises

**Bank credit creation determines economic growth.
The effect of bank credit allocation depends on
the use money is put to**



Case 1: *Consumption credit*

Result: Inflation without growth

Case 2: *Financial credit*

(= credit for transactions that do not contribute to and are not part of GDP):

Result: Asset inflation, bubbles and banking crises

= unproductive credit creation

Investment credit

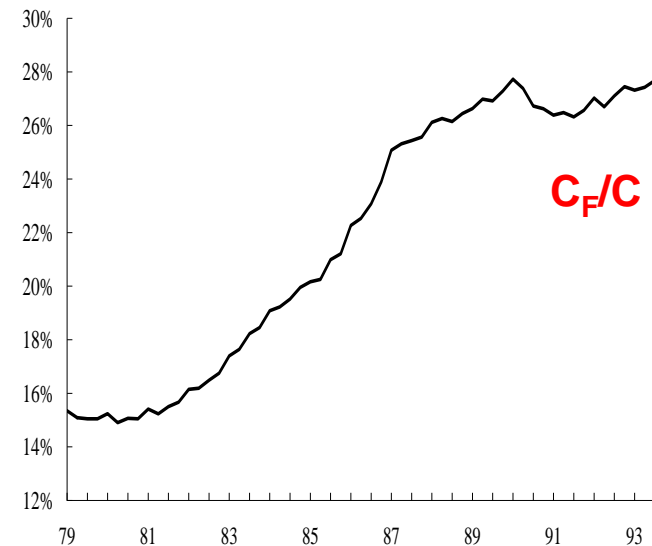
(= credit for the creation of new goods and services or productivity gains)

Result: Growth without inflation, even at full employment

= productive credit creation

Credit for financial transactions explains boom/bust cycles and banking crises

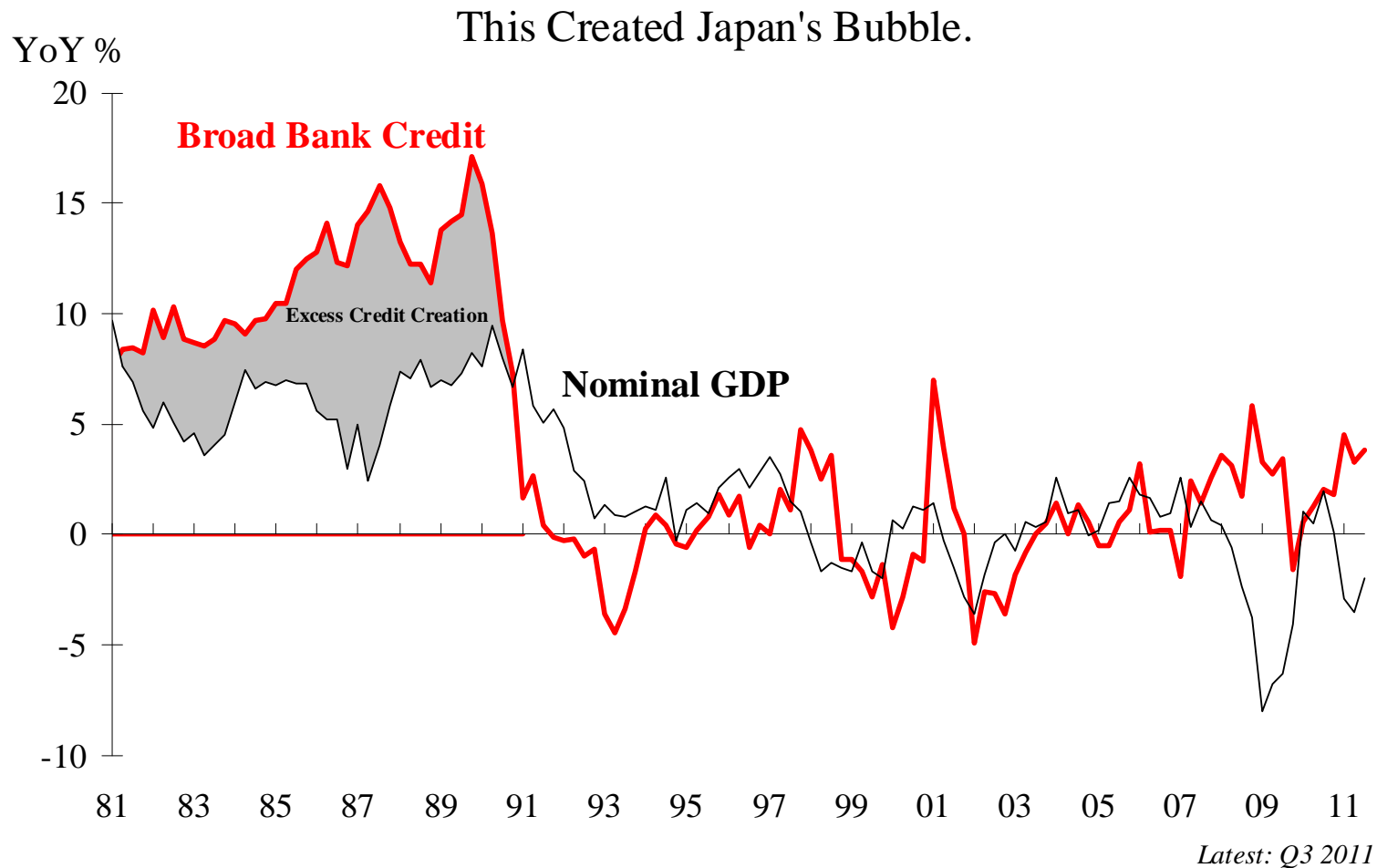
- A significant rise in credit creation for non-GDP transactions (financial credit C_F) must lead to:
 - asset bubbles and busts
 - banking and economic crises
- USA in 1920s: margin loans rose from 23.8% of all loans in 1919 to over 35%
- Case Study Japan in the 1980s: C_F/C rose from about 15% at the beginning of the 1980s to almost twice this share



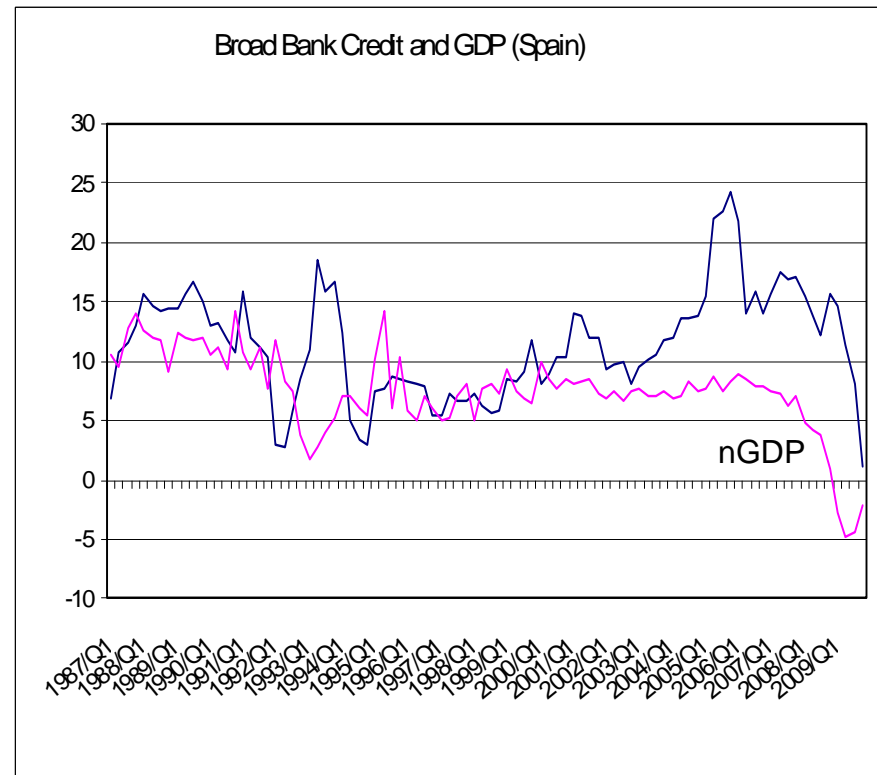
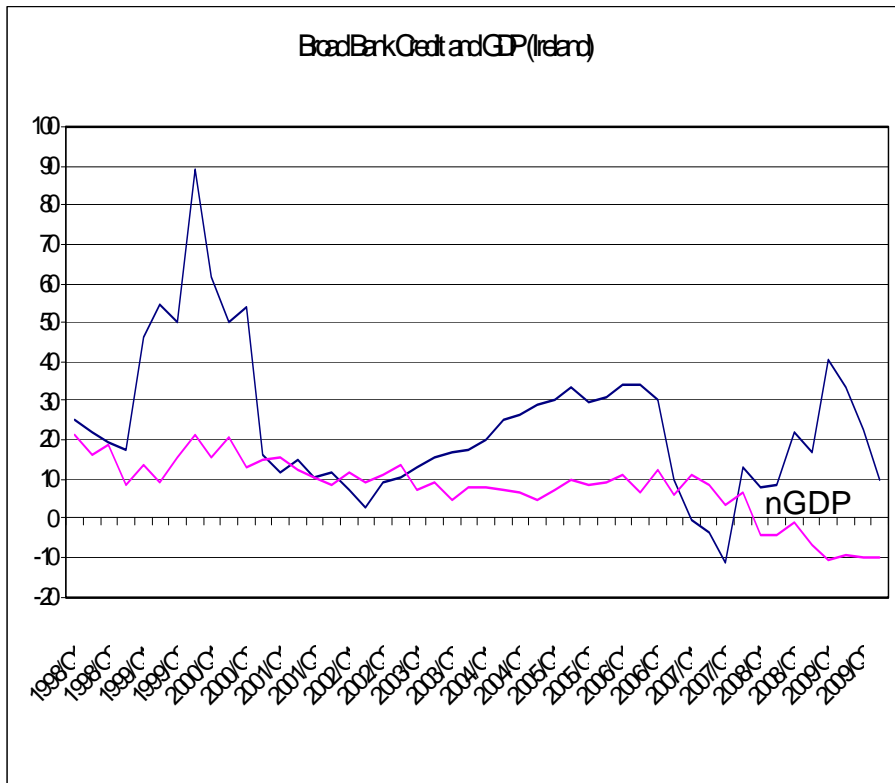
Source: Bank of Japan

C_F/C = Share of loans to the real estate industry, construction companies and non-bank financial institutions

Warning Sign: Broad Bank Credit Growth > nGDP Growth

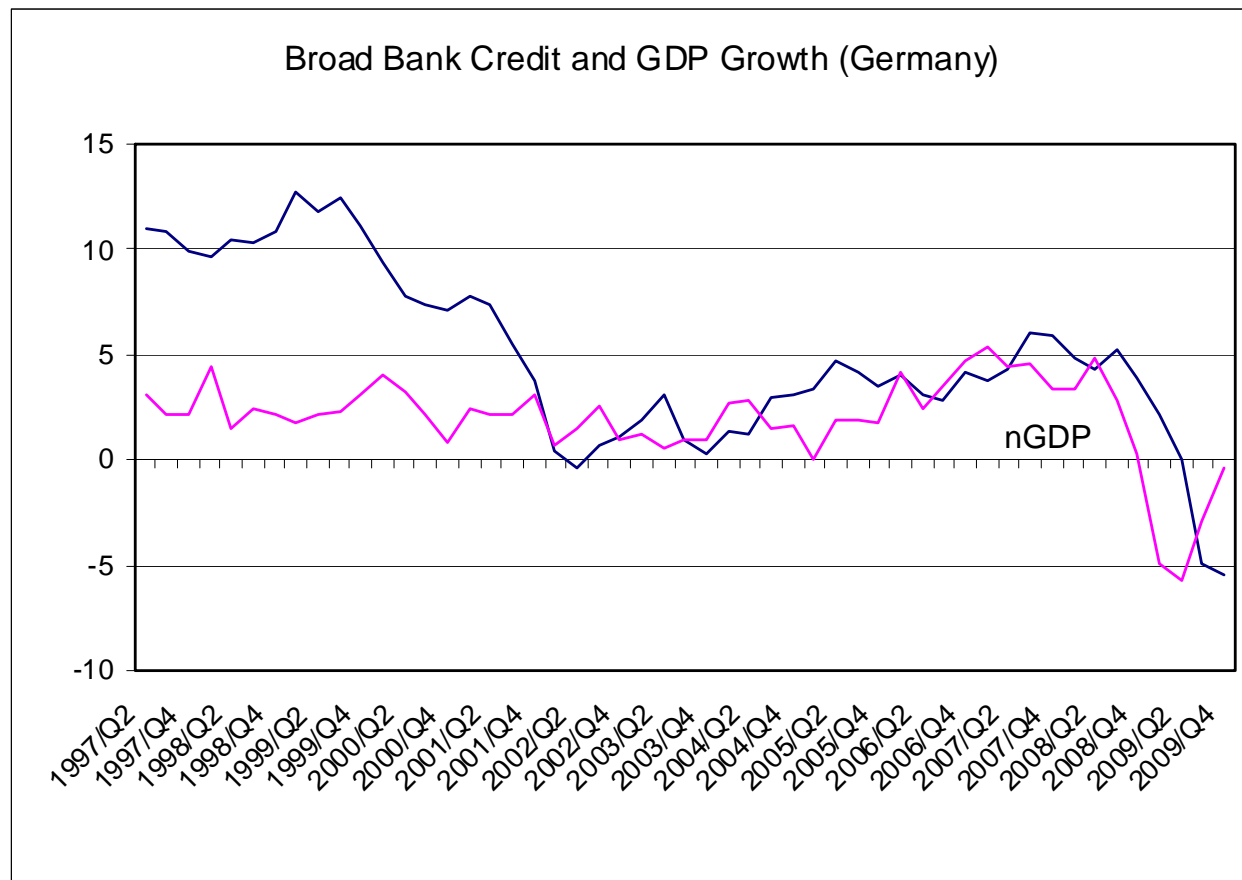


Out-of-control C_F is the problem, creating the Bubbles and Crises in Ireland & Spain

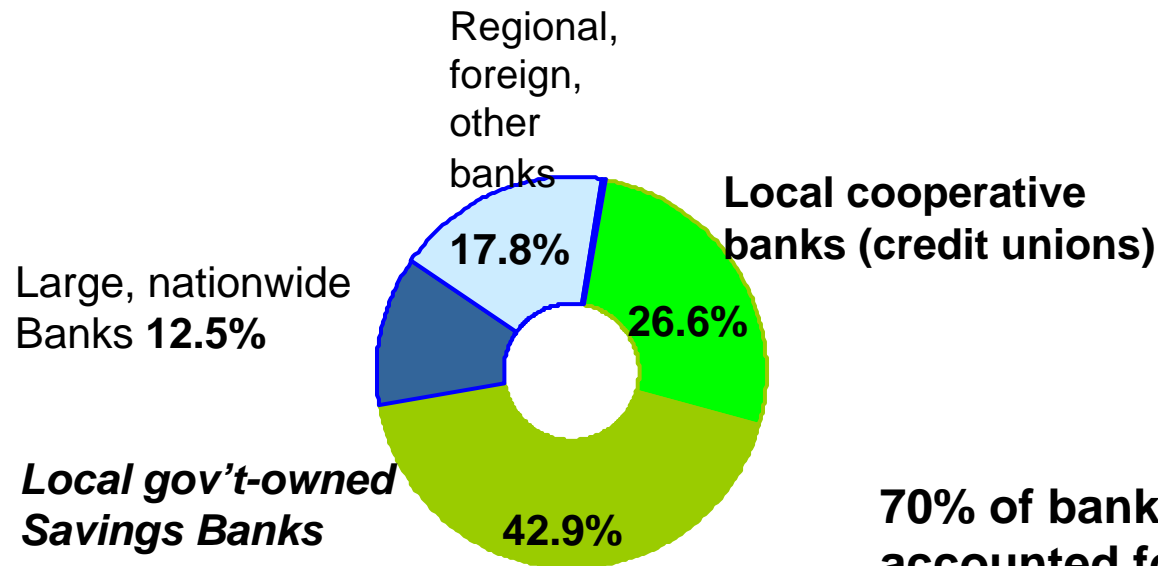


Broad Bank Credit Growth > nGDP Growth

How to Avoid Asset Bubbles & Home-Grown Banking Crises - and ensure ample funding for small firms



Banking in Germany



70% of banking sector accounted for by hundreds of locally-controlled, small banks, lending mostly to productive SMEs

The German Experience: 1,700 Local, Not-For Profit Banks Dominate Banking

- The **Sparkassen** are by law required to provide banking services to everyone.
- The cooperative **Volksbanken** and the **Sparkassen**, as not-for-profit banks, contribute from their surpluses to local community needs and interests (ranging from economic needs to health, culture and others).
- The **Sparkassen** are by law required to lend only in their local area. **Volksbanken** have the same rule, imposed by their charta.
- This ties them in with the economic well-being of their local area and ensures local SME lending.
- Due to **credit creation**, having thriving local banks means communities have their own '**local currency**', their own 'local central banks' or 'development banks' expanding the money supply and boosting local economic activity.

The US Experience: Legislation to Force Banks to Disclose Who they Lend to and to Ensure Local Re-Allocation of Funds

- The **Home Mortgage Data Act (HMDA) 1976** requires all lenders to report on every *request* for a mortgage loan (including small business loans). (Data by locality and use of property, price, demographics of borrower etc.)
- The **Community Reinvestment Act (CRA) 1977** requires banks to meet the credit needs of all communities 'safely and soundly' (avoiding subprime mortgage boom-bust)
- As a result, banks have been exposed to various forms of incentives to behave more responsibly and community-oriented
- 1996-2009: \$1.4 trillion in CRA bank loans, over USD 50bn p.a. 60% of loans to SMEs, 40% mortgages. Virtually no consumer credit & subprime.
- Stable, sustainable credit creation for local communities.

Policy Lessons

- Given the **pivotal role of credit creation and its allocation** all methods to **encourage productive credit creation** and **restrict unproductive bank credit** need to be considered.
- **Capital adequacy-based rules**, as recommended by the Basel Committee, have **no track record** of doing the job. They **cannot end the boom-bust cycles and banking crises**.
- This is because **banks create the money that becomes the capital** required for higher capital adequacy – so even counter-cyclical capital adequacy requirements will not work, as during boom times banks create more money and hence find it easier to raise more capital.
- Instead, direct rules concerning the quantity and allocation of bank credit have an excellent track record (**credit guidance, window guidance**).

Bank credit creation is a public privilege

- It is not a law of nature that commercial banks should be the institutions creating and allocating the money supply.
- It is a public privilege granted to banks, on the implicit understanding that they will not use it against the public interest.
- However, governments and regulators have failed to ask banks to **create and allocate credit mainly for productive purposes** and transactions that are part of GDP. **Only productive credit creation is sustainable.**
- **Markets simply do not ensure an efficient allocation of credit.**
- Banks have responded by using the privilege to create the money supply **for their own short-term (speculative) gains.**
- This creates unsustainable asset bubbles and costly banking crises and subsequent recessions.

To Avoid Banking Crises one only needs to...

- **restrict bank credit** for transactions that **do not contribute to GDP**.

To End Banking Crises one only needs to...

1. do what was done in **Japan in 1945** and in **England in 1914**, when the key banks were bankrupt – which did not use tax payers' money nor did it create public debt, but it created an immediate recovery:
 - The central bank purchases all non-performing assets from the banks at face value (at par, 100) (no loss by CB and no inflation).
2. do what **Germany did in 1933** to end the Great Depression in a year:
 - The state does not issue gov't bonds, but instead borrows from the commercial banks via loan contracts, which this way expand credit.

What Determines Growth?

- **Nominal GDP growth** is determined by bank credit creation for GDP transactions.
- **Real GDP growth** is determined by credit creation for productive purposes (investment credit).
- Periods of no growth are in our system due to no credit creation.
- We can always create high real growth, if we ensure that enough credit is created for productive purposes (sustainable, environment-enhancing projects, implementation of new technologies and alternative energy concepts)
- Central banks determine bank credit creation. They have revealed their preference for low growth and recessions in Japan and Europe.

Justifications of Interest in Economics

- 1. Opportunity Costs:** The lender must be compensated for foregone alternatives.
- 2. Time Preference** (Carl Menger, 1871; Böhm-Bawerk, 1891): Transfer of consumption opportunities from savers to consumers
- 3. Marginal Cost of Capital:** Factors of production are paid their marginal productivity. Capital is paid interest of such an amount.
- 4. Uncertainty requires a risk premium** (Böhm-Bawerk, 1891; Schumpeter, 1912). But risk not paid by bank, but by public!
- 5. Liquidity Preference, Precautionary Demand for Money** (Keynes, 1936):
“the rate of interest is the reward for parting with liquidity for a specified period.” (Keynes, 1936). Not true for banking system as a whole!
- 6. Monitoring Fee** to be paid to the financial sector (Schumpeter, 1912). But monitoring ineffective (crises), not according to public welfare principles.
- 7. Interest** equilibrates the money/credit/capital markets and determines economic growth. Thus it is the **most important monetary policy tool.**
(Wicksell, 1898; Woodford, 2003)

“What, then, is the hire of (other) capital, houses, pianos, typewriters, and so forth? Is it interest? Certainly not. Their hire is obviously house rent, piano rent, typewriter rent, and so forth”
(Fisher, 1930)

Interest Creates Regressive Transfers and Pressure for Unsustainable Growth

- Interest is a **pure transfer**.
- Transfers are **redistribution policies**. Interest achieves clandestine regressive redistribution.
- Interest redistributes very quickly – and from the many to the few.
- Interest costs are borne by all of us via product prices.
- Interest creates national debt and via ‘necessary cuts’ a reduction of public services and social welfare.
- Interest creates economic pressure to deliver dividends and continuous growth which is harmful to the environment.

2. Growth is a Statistical Illusion

- **The economy can do very well without growth – for this is the actual reality.**
- **Growth is a statistical illusion**, created via the methodology of national income accounting.
- GDP and the concept of 'growth' are useful to justify and allow the interest system of transfers - and with it the system of private money creation and allocation.
- In reality there is no limit to 'growth' the way we define it today (wars and rising criminality create more 'growth'), as limitless innovation allows continuous improvements in the environment and quality of life.

3. What are the implications of the current phase of low growth?

- The public: Unemployment, redistribution, rising inequality
- The banks:
 - consolidation.
 - reduction in the number of banks.
 - Increased concentration, whereby the 'good' banks (local banks) are endangered.
 - Concentrated resource allocation power of the banking sector

4. The Solution: State Money – Growth without Interest

- **The solution:** discontinue the reliance on interest-based banking.
- Disentangle financial intermediation from credit creation (money supply), by requiring banks to **hold deposits in custody**, making them true deposits.
- Banks would then be equal to other ‘mere’ financial intermediaries and their systemic role would disappear.
- Costly deposit insurance and bank bailouts would no longer be needed.
- The pressure to create growth would lessen significantly.
- The sovereign right to create and allocate the money supply would revert to the state to whom it belongs.
- Government debt can be reduced substantially, fiscal deficits will shrink as few new interest costs arise.

The Solution: State Money – Growth without Interest

- **Taxes would drop sharply**
- **Prices would fall, while demand would remain strong**
- **The economy could focus on true, sustainable growth without wasteful or harmful growth.**
- **Focus could shift to improving the quality of life (Keynes: Possibilities for our Grandchildren)**
- **Local communities and environmental protection could be enhanced**
- **There would be no more costly banking crises and asset bubbles.**
- **But: Growth would have to be redefined properly to stop the unnecessary depletion of finite resources and reduction in quality of life.**

How to Utilise the Financial System to Achieve Sustainability

Examples of State Money Systems, Not Reliant on Interest-Based Banking:

- US under JFK, 1963: United States Notes
- Germany 1874: Reichskassenscheine
- UK, 12th to 19th century: tally sticks; 1914: 'Bradburys'
- Japan in 1868 (early Meiji): *dasatsu* (*dajokansatsu*)
- America: colonial scrip; later under Abraham Lincoln: Greenbacks
- China in Kublai Khan's day: government paper money
- Rome, about 300 BC to 49 BC : state coins made of cheap copper and brass, not precious metals, spent into circulation by the gov't (with Julius Caesar's assassinatino it was taken out of circulation).
- Sparta 5th to 4th century BC

State Money – A More Sustainable System



**China: Government-issued paper money (Kublai Khan)
Zero Government Debt, Zero Interest Payments**

State-Issued Money



太
政
官
札

Dajōkan
satsu

Japan: Government-issued paper money: 1868

State-Issued Money



Colonial Scrip in North American British Colonies

“In the Colonies we issue our own money. It is called Colonial Scrip. ...we control its purchasing power, and we have no interest to pay to no one.”

(Benjamin Franklin, quoted by Senate Robert Owen, *National Economy and the Banking System*, Senate document 23, Washington DC: US Gov't Printing Office, 1939, p. 98)



Colonial Scrip Banned by Britain (Currency Act 1751 and 1764, forbidding scrip to be designated legal tender and to settle private debt.)

Was the War of Independence fought over taxes on tea? (‘Boston Tea Party’)

Or over new English legislation forcing colonies to abandon their paper money and use gold and silver?

“The Colonies would gladly have borne the little tax on tea and other matters had it not been that England took away from the Colonies money, which created unemployment and dissatisfaction” Benjamin Franklin (as quoted by R. Owen, 1939, op. cit).

State-Issued Money

President Lincoln issued United States Notes



1863 United States Notes, aka ‘Greenbacks’

1862, President Lincoln signed the First Legal Tender Act

“The underlying idea in the greenback philosophy... is that the issue of currency is a function of the government, a sovereign right which ought not to be delegated to corporations.”

Davis Rich Dewey (MIT, 1902)

State-Issued Money



Deutsches Reich: German government-issued paper money₄₇

State-Issued Money



Island of Guernsey: Government-issued paper money

‘In 1817, the Island was desperately in need of infrastructure investment, but it was bereft of money. The interest payments alone accounted for most of their tax revenue. They found that they could not bleed any more taxes out of the people and they could not afford to borrow any more money.’

State Money – A More Sustainable System

1917



UK: Government-issued paper money: 1914-1928

The standard
'Federal
Reserve Note'



JFK's 1963
'United
States Note':
No Fed seal





Thomas Edison:

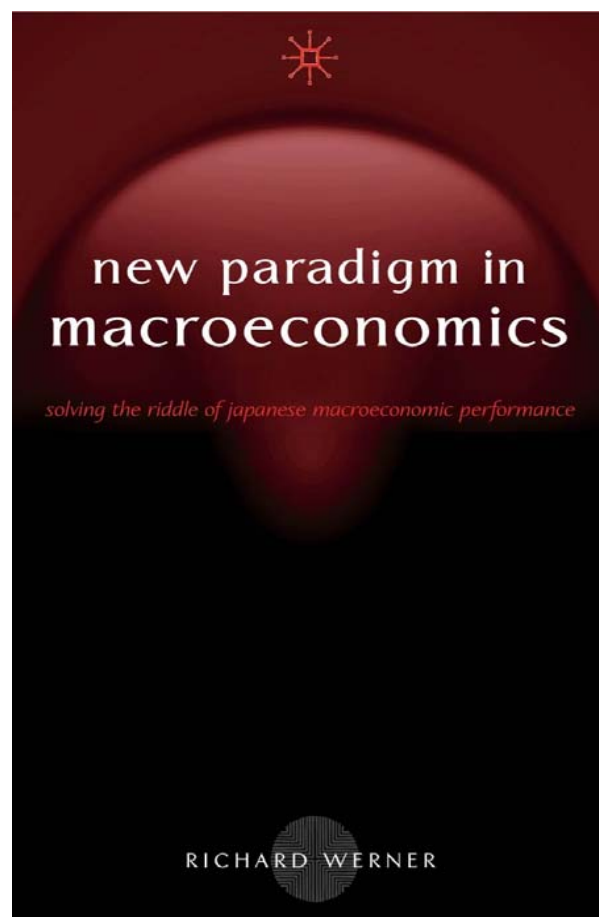
“People who will not turn a shovel full of dirt on the project (Muscle Shoals Dam) nor contribute a pound of material, will collect more money from the United States than will the People who supply all the material and do all the work.

This is the terrible thing about interest ... But here is the point: If the Nation can issue a dollar bond it can issue a dollar bill. The element that makes the bond good makes the bill good also. The difference between the bond and the bill is that the bond lets the money broker collect twice the amount of the bond and an additional twenty percent. Whereas the currency, the honest sort provided by the Constitution, pays nobody but those who contribute in some useful way. It is absurd to say our Country can issue bonds and cannot issue currency. Both are promises to pay, but one fattens the usurer and the other helps the People. If the currency issued by the People were no good, then the bonds would be no good either. It is a terrible situation when the Government, to insure the National Wealth, must go in debt and submit to ruinous interest charges at the hands of men who control the fictitious value of gold. Interest is the invention of Satan.”

in *The New York Times*, December 6, 1921

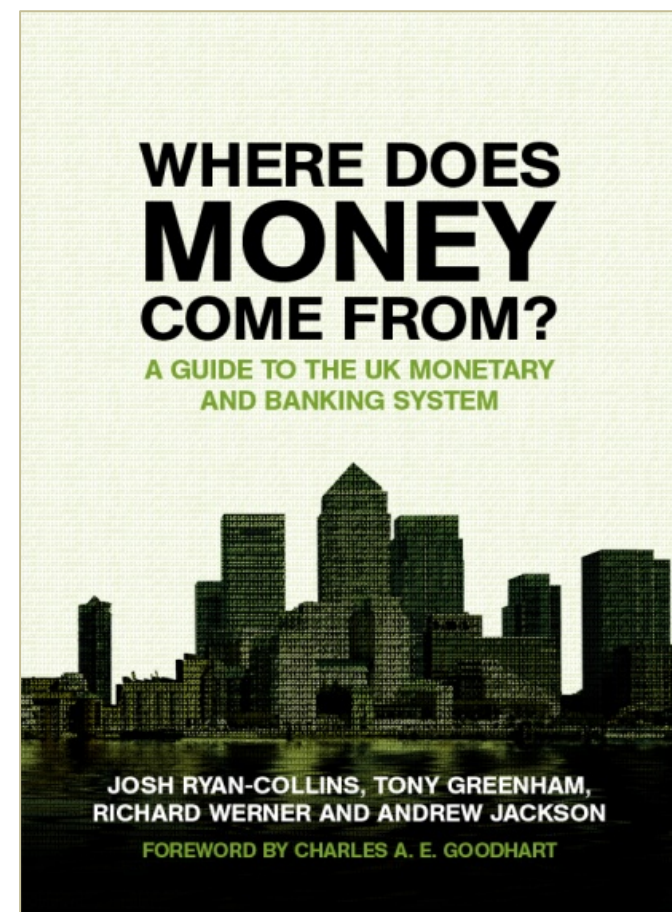
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Further Reading:



Basingstoke: Palgrave Macmillan, 2005

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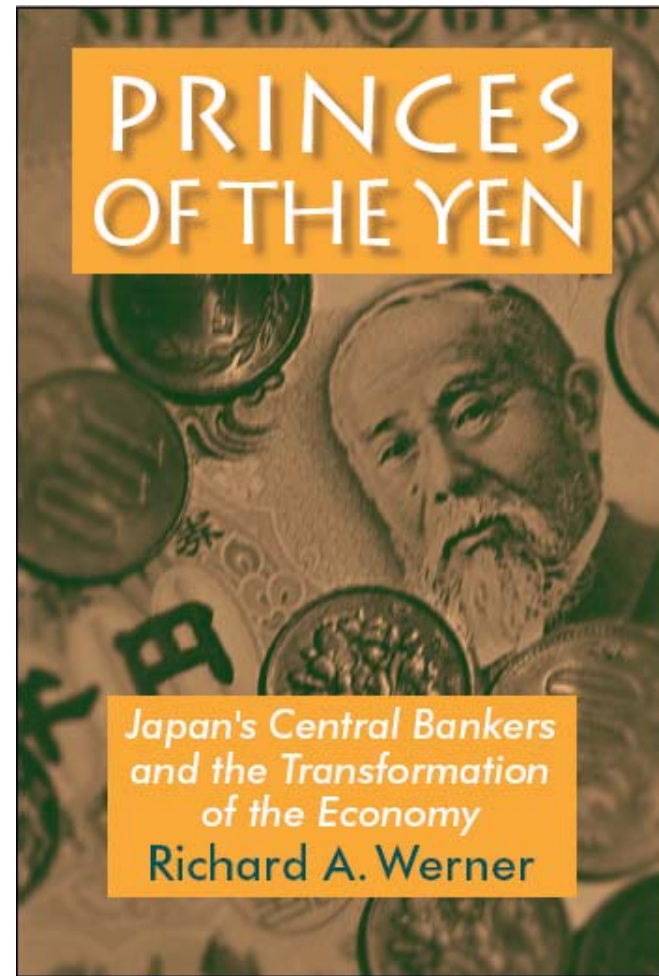
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München: Vahlen Verlag, 2007

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