

Currency Developments

I. DEVELOPMENT OF THE MODERN MONETARY SYSTEM.....	3
A. DEVELOPMENT OF THE GOLD STANDARD	3
1. <i>England – Gresham’s law</i>	3
2. <i>Germany</i>	5
3. <i>United States</i>	6
4. <i>France</i>	6
B. PAPER MONEY	7
1. <i>Sweden</i>	7
2. <i>England - at the same time: Introduction into the theory of banking</i>	8
3. <i>United States</i>	10
4. <i>France</i>	12
5. <i>Germany</i>	15
II. PAPER MONEY AFTER WORLD WAR II (RU: GREAT PATRIOTIC WAR) 20	
A. DISSOCIATION FROM GOLD, GOLD PRICE AND RATES OF INFLATION IN THE UNITED STATES	20
B. DEFINITION OF MONEY	26
C. AMOUNT OF CENTRAL BANK MONEY, MONEY VOLUME AND MONEY CREATION	27
D. THE MONEY MULTIPLIER.....	29
E. MONEY SURROGATE	33
F. THE QUANTITY THEORY	36
1. <i>The naïve quantity theory</i>	36
2. <i>The exchange equation</i>	40
III. INFLATION: WHAT IS IT, WHICH EFFECTS HAS IT AND WHY ARE SO MANY PEOPLE AGAINST INFLATION?.....	44
A. WHAT IS INFLATION	44
B. EFFECTS OF INFLATION	45
1. <i>Inflation as a taxation of cash owners</i>	45
2. <i>Inflation as a redistribution from creditor to debtor</i>	46
3. <i>Inflation changes the taxes in terms of real value</i>	48
4. <i>Unintentional legal effects of inflation</i>	49
5. <i>At inflations, not all of the prices are changing synchronically - the Phillips curve</i>	50
IV. INTERNATIONAL TRANSFER PAYMENTS WITH SELECTED EXAMPLES	52
A. THE FRENCH REPARATION PAYMENTS TO THE GERMAN REICH 1871 - 1874	52
B. THE GERMAN REPARATION PAYMENTS TO THE ALLIED AND ASSOCIATED POWERS DURING 1918-1931	54
1. <i>Important stages</i>	54
2. <i>The Treaty of Versailles (TV)</i>	54
3. <i>The Dawes Plan</i>	55
4. <i>The Young Plan</i>	55
5. <i>Conference of Lausanne of 1932 (as a result of the Hoover agreement of 1931)</i>	56

6.	<i>The London Debt Agreement</i>	57
7.	<i>Why did the transfer not happen smoothly?</i>	58
C.	THE ASSISTANCE OF THE UNITED STATES FOR THE EUROPEAN AND ASIATIC COUNTRIES BETWEEN 1948 AND 1952 (MARSHALL PLAN)	59
V.	EFFORTS FOR AN INTERNATIONAL COORDINATION IN MONETARY MATTERS AND FOR AN INTERNATIONAL MONETARY ORDER	61
A.	THE BANK FOR INTERNATIONAL SETTLEMENTS (BIS)	61
B.	BILATERALISM, INNER EUROPEAN PAYMENTS AGREEMENTS EPU AND EMA.....	64
1.	<i>Bilateralism: international payment transactions between the GFR and the GDR</i>	64
2.	<i>Multilateral payments agreements</i>	67
3.	<i>The European Payment Union (EPU) and the European Monetary Agreement (EMA)</i>	70
4.	<i>EPU</i>	71
C.	INTERNATIONAL MONETARY FOND (IMF)	73
1.	<i>History</i>	73
2.	<i>Exchange rate system and special position of the United States</i>	74
3.	<i>Ways of functioning</i>	77
4.	<i>Organisation of the IMF as a bank</i>	77
5.	<i>Special Drawing Rights (SDR)</i>	78

I. Development of the modern monetary system

A. Development of the gold standard

“Credit is a power which may grow, but cannot be constructed.”¹

If you look at the oldest documents of ancient times that means since more than 3000 B.C. precious metals have been used, as money by a human. You can conclude from old stone boards from the third century B.C. that fields have been sold for silver.² For a long time mainly silver was used as money. Compared to silver, gold played only a minor role in the history of money. In old Egypt it gold was reserved to the Pharaohs.

1. England – Gresham’s law

Only in modern times, gold established as the metal, most coins were minted out of. From England, the gold standard spread all over the world. It owns its development *not* to an intended, planned act of an institution, but it developed slowly by the effects of Gresham’s law. Throughout all the medieval times, silver coins were used in England. In the year 1633 the African Company received the special right to mint coins of gold or silver. A little gold coin with an elephant was minted, the “Guinea piece”. Towards the end of the century one ounce of silver was minted into 62 d (say: pence; d as a symbol for the old roman “denar”, even in modern times), one ounce of gold into 89 s since April 1696, since 1699 86s 11,7 d, and since 1717 84 s 11,5 d. With this gold was valued with 16,44 times the value of silver by the coin act.

In India the value- ratio between gold and silver was only 10:1. So the East India Company exported silver to India. The trade value of 16,44 ounces of silver was bigger as the one of an ounce of gold.

The silver coins, more precious compared to their nominal value, were collected and exported to India and the gold coins, less valuable compared to their nominal value, were used in trade. That’s Gresham’s law: It says: Bad money crowds out of

¹ Bagehot, Walter: Lombard Street. A Description of the Money Market. Richard D. Irvin: Homewood 1962 (1873), P. 33.

² Edzard-Dietz, Otto: Sumerische Rechtsurkunden des III. Jahrtausends. München 1968, S. 168.

circulation good money. The good, more valuable money was silver. The bad money was the gold coins.

Since 1750 mainly gold coins were in circulation³. The transition to the gold standard was made in different stages. First a value ratio between gold and silver was fixed by the mint prices, by which silver was undervalued and so was slowly crowded out. Since 1774 silver coins only were usable as legal tender up to 25 L. For higher payments silver could only be used by weight.

In 1798 minting of silver coins was stopped. In 1816 gold coins finally became the only, unlimited legal tender.⁴

England remained - with war caused interruptions - with the definition of the currency in gold until the first big economic crisis in 1931. But no gold coins were in circulation after the suspension of the gold standard in between 1914 and 1925. The Bank of England was only obliged to change banknotes into gold bars, when the minimum amount was fixed to 400 Troy-ounces, which equalled approximately 34000 gold marks. So gold was not an issue anymore as a currency metal for the normal citizen. In the times after the World War I the currency system was described as "Gold bullion standard", not as "gold standard".

The expression gold currency or gold standard should signify here, that gold coins keep the main position in circulation. In a more narrow sense, gold standard is understood

- as a state where gold coins were the only, unlimited, legal tender for all economic subjects.⁵

- every citizen had the right to exchange gold bars into legal tender

Legal tender you call those objects, which are able to repay debts denominated in currency units.

The separation between gold currency in such an unspecific way and the well defined, strict definition is useful, because money is not only a creation of law, but also of real social circumstances, which often go hand in hand with the legal circumstances, but sometimes differ quite a lot from them. England for example had

³ Feavearyear (1963), p. 97 and p. 150-154

⁴ Compare Feavearyear (1963), p.172, 188 and 212 following

⁵ Since 1833 in England, also notes of the Bank of England were legal tender for all economic subjects with exception of the Bank of England itself

a double currency in the 18th century, that means that gold as well as silver were legal tender, but in reality mainly gold coins were in circulation. Although gold became “de jure” the only legal tender in 1816.⁶ Therefore you can talk of a gold currency from this point on, while in reality non-exchangeable paper money of the Bank of England was in circulation at that time. These had spread slowly during the 18th century and their exchangeability was stopped as a result of a war with France (Napoleonic War) in 1797. Notes of the Bank of England were still accepted⁷ because of a gathering signed by 4000 merchants to prevent national crisis. Only in 1820 notes of the Bank of England were again exchangeable into gold.

2. Germany

In Germany, the gold currency was introduced with the foundation of the German Reich. At the 4th of December 1871 the coin act concerning the minting of coins and at the 9th of July 1873 the coin act was introduced. The law from 1871 still didn't determine if the currency was a gold standard or a double standard. Together with the regulation of September the 22nd 1875 (RGLB S. 303), the law of 1873 introduced the Reich-gold currency for the 1st of January 1876. But the silver coins circulating in the different parts of Germany only lost the standard as a legal tender in steps, finally the One- Taler-Coin in 1907. Also the introduction⁸ of the gold standard in Germany can be interpreted as an expression of the Gresham's law, because the gold discoveries and the part of gold extraction of the total precious metal extractions were strongly increasing compared to the first half of the century⁹. The gold standard stopped with the outbreak of the German War (Germans say: First World War) in 1914 and represented only a short episode compared to 1000's preceding years when silver was the main currency metal. Through the bank act of 1924 (RGLB II S.235) it was tried another time to make the notes of the Reichsbank exchangeable by choice into either gold coins, or gold bars or foreign currency. The gold standard remained at first suspended because of temporary regulations (although the Reich bank fixed the exchange rate of the US-\$ by market

⁶ Feavearyear (1963) Page 213

⁷ Guiseppi, John: The Bank of England. A History from its Foundation in 1664. London 1966, page 76

⁸ Borchard Knut: Währungs- und Finanzpolitik von der Reichgründung bis zum I. Weltkrieg. Währung und Wirtschaft. In Währung und Wirtschaft in Deutschland 1876-1975. Hrgs: Deutsche Bundesbank. Frankfurt 1976 S. 3-55, S 8

⁹ Jastrock, J. : Geld und Kredit, 4. Auflage, Berlin und Leipzig 1919, plage 103

interventions, which in turn could be exchanged into gold) and was only reintroduced in 1930 to be stopped again in 1931.¹⁰

3. United States

In the United States, the coinage act of 1792 defined a gold dollar as well as a silver dollar, which was 15 times heavier than a gold dollar¹¹. As gold was worth more than 15 times of the silver value on the market, the United States were de facto – according to the Gresham’s law- on a silver standard until the 30ties of the 19th century. Through the coinage act of 1834 and 1837 the value-ratio between gold and silver was fixed with the 16 to 1 (16:1).¹² By this gold was valued a little bit higher than on the world markets. According to the Gresham’s law, silver was driven out of circulation and mainly gold coins were minted. Only in 1873 the free minting of silver coins was suspended.¹³ In these times the “greenbacks” (paper money with green backsides) were still legal tender¹⁴ in the United States. They had come into circulation during the American Civil War since 1862. Since 1879, the Greenbacks were again exchangeable into precious metal coins¹⁵ and the introduction of convertibility meant the final transition to the gold currency. The „Gold standard Act“ of 1900 consolidated this.¹⁶ During the world economic crisis 1929-33, the United States experienced three waves of bank crises and during the third bank crisis, a bank holiday was proclaimed at the 6th of March 1933 which brought as well the end of the gold standard for the United States.¹⁷

4. France

After the complete devaluation of the “Assignats” in 1796¹⁸, France introduced a double currency in 1803¹⁹, which means gold as well as silver were currency

¹⁰ Stukken, Rudolph: Deutsche Geld- und Kreditpolitik.

¹¹ Dewey, Dawis Rich: Financial History of the United states. 6th. Ed. 1918 (1903), page 103

¹² Dewey (1918), p.213

¹³ Dewey (1918) p. 404

¹⁴ Dewey (1918), p.284

¹⁵ Dewey (1918), p.373

¹⁶ Dewey (1918), p.469

¹⁷ Friedman,, Milton, Schwartz, Anna Jacobson: A Monetary History of the United states 1867-1960. Fifth Printing. Princeton 1971 (1963), p. 462-472

¹⁸ Nogaró, Bertrand (1948), p. 103

¹⁹ Nogaró, Bertrand: La Monnaie et les Systemes Monetaires.Paris 1948, p. 80 and 86

standards. Their value-ratio was $15 \frac{1}{2} : 1$.²⁰ As by this ratio, silver was overvalued according to the Gresham's law, the silver standard took over in France. Already since 1820, but especially since after the gold discoveries in California around 1850, gold was minted.²¹ France, Belgium, Switzerland and Italy united into the Latin Coin Union²² in 1873, which kept having a double currency with the minting ratio of $15 \frac{1}{2} : 1$. Through the demonetisations of silver in Germany in 1873 and through the increasing amounts of silver were set free, so that the price of silver sank. Although a pure silver circulation should have taken place according to the Gresham's law, in 1873, a consequence was taken to reduce the silver minting²³ to a certain amount to adjust to the circumstances in England and Germany. As in France only the minting of silver was suspended while it remained a legal tender, France had a so-called "limping gold standard". The gold standard had taken over in Europe, which lasted from 1914 to 1928²⁴. France finished the bound of his currency to gold in 1937²⁵.

B. Paper money

1. Sweden

While the gold standard had developed in the 17/18th century and found its peak in the 19th century, paper money developed as well.

Paper money on a **Whole Sum** that was **Printed** was issued in Europe for the first time in Sweden, even though the invention of paper money were in the air and the first issue was possibly not handed down because it was too similar to other kinds of receipts - for example other bills of credit not to be considered worthy of mention²⁶. Paper money entitled the owner to receive a certain amount of copper money circulating in Sweden at the time. The inventor of this instrument, Johann Palmstruch (from Riga, Latvia which was under Swedish order at that time), had lived as a merchant in Holland²⁷. The introduction of paper money was favoured by

²⁰ Nogaro, Bertrand: *La Monnaie et les Phenomenes monetaires contemporains*. Paris 1935, p. 41

²¹ Nogaro Bertrand (1935), p. 41

²² Nogaro Bertrand (1948), p. 87

²³ Nogaro Bertrand (1948), p. 94

²⁴ Nogaro (1935), p. 156f.

²⁵ Nogaro (1948), p.147

²⁶ Relations to paper emissions in China earlier, should not exist. Emission of banknotes has to be understood as a legal development in which all Europe took part.

²⁷ To the history of paper money of the bank of Stockholm: Heckscher, Eli F.: *The bank of Sweden in its connection with the bank of Amsterdam*. In: *History of the principle public Banks*.

the fact that copper money had a high weight. The biggest coin of 10 Taler weight almost 20 kg and a common coin of 2 Taler weight approximately 3.5 kg. Paper money saved the difficult and exhausting transport of big amounts of copper. The Copper received for banknotes of the “Stockholm Bank” was not stored in the bank, but it was lend. Already two years later in 1663, the bank was not able to fulfil all the exchange wishes. Therefore it was closed in 1664.

Banks already existed since the end of medieval times as deposit banks. It was always necessary to go to the bank if banknotes should be from transferred to an other Person. Also banknotes existed earlier, but only as goldsmith’s notes in odd sums. The new thing about Palmstruch’s construction was that,

The banknotes were issued as

- pure bearer securities over deposits
- on whole sums and
- were printed.

Contrary to transferable receipts, you couldn’t see if these notes originated from deposits of a certain sum of metal money with a bank or from a loan given by the bank.

2. England - at the same time: Introduction into the theory of banking

Already the following bank, issuing notes, was proof to be a symbol of solidity. It was the Bank of England, founded in 1694. In 1689 the Bill of Rights created the base for constitutional monarchy and the absolute domination of the king was finished. This seems to be a condition for successful bank founding, as until then successful half public banks were known from city states: the Bank of Venetia (foundation in 1587), the Bank of Amsterdam (foundation in 1609), the Bank of Hamburg (foundation in 1616).

As a compensation for a loan of 12 Mio. Pound Sterling, that was given to the government they received the privilege to issue notes which could be exchanged at

Collected by J. G van Dillen. New York 1964 (1934), P. 161 to 199, p 162 and 170f. Castegren, E: Riksbankens pappewrsbrucjk. Tumba 1955. Sveriges Riksbank 1668-1968. Tumba 1978.

During 100 years the banknotes of the Bank of England were flattering the public by being constantly exchangeable into silver and gold coins. During the war from 1797 to 1820, the exchange of the banknotes was suspended. The same is valid for the time of the German War from 1914 to 1918³⁰ and for the post war years until 1925. Since 1925 the banknotes of the Bank of England were not anymore exchangeable into gold coins, but only into gold bars, which allowed the gold exchange of notes of the Bank of England only for big amounts. In 1931, the exchange of notes for gold was finally suspended.

3. United States

If the history of trading banks belongs to the Italians and the one of the central bank to the British, said Galbraith, then the history of paper money issued by the government, belongs without doubt to the Americans³¹. Already in 1690 the colony of Massachusetts issued notes over 10 Schillings that were exchanged by the colony of Massachusetts with a bonus of 5% when paid to the state.³²

Other colonies followed this example of Massachusetts until in the year 1751, the English parliament forbid the issuing of Paper money in New England and 13 years later in the remaining colonies³³.

Also in the French colonies of Canada appeared already the issuing of “playing card money”. Because of the missing money transports for the payment of soldiers, the commanding officer De Meulle had the idea to require all playing cards of the troops to put currency amounts and his signatures on it. He obliged all the citizens to accept this money as a payment and gave his personal exchange guarantee. In a report to his home country, he wrote that nobody refused the money and the result was so good that the life of the troops stayed normal. This “playing card money” remained in circulation in the Canadian colonies from 1685 until the middle of the 18th century³⁴.

³⁰ During both of the wars, the notes of the Bank of England were by law, but not in actual fact, legal tender. During the Napoleon War the creditor could wait until the resumption of payment by the Bank of England, if he wanted gold. During the German War, the demand of the exchange for gold was considered a support of the enemy. Compare Nussbaum, Arthur.: Money in the law. National and International. 2nd ed. Brookly 1950, p. 47f.

³¹ Galbraith, John, Kenneth: Geld. Woher es kommt, wohin es geht. Munich, Zürich 1976 (Boston 1975), p. 53

³² Dewey (1918), p 22

³³ Dewey (1918), p.29

³⁴ Angell, Norman: The story of money. London 1930, p. 247-250 with illustrations

With the American Independency War, a new chapter of the history of paper money was opened, the one of the galloping or at least trotting inflation.³⁵

From 1775 until 1779 the American Congress issued “bills of credit ” (so called continental money), which should had been repaid between 1779 and 1782. These notes had already decreased to 1% of their previous value compared to their value-ratio to foreign coins in January 1781³⁶. That’s why they were repudiated „, which means that they were rejected by the circulation³⁷. After this furious start of the paper money in the United States, its role was rather small in the following times. 1791 the first bank of the United States was founded, whose Charta was limited and ended in 1811.³⁸ In 1817 a second bank of the United States was founded, whose concession ended in 1836 and therefore lost its importance as a national institute.³⁹

While the intents to create an American central bank were not successful, many private banks were founded during the first half of the 19th century. Their number increased from 329 to 1829 to 1600 in 1861⁴⁰. When in these times a bank was founded, it meant, contrary to following times, when a bank only accepted deposits that paper money was issued. . These 1600 banks issued 7000 different banknotes to which 5000 counterfeits can be added. That’s why a “banknote-reporter” and a “counterfeit detector” existed⁴¹. The two-time failure of a big bank on national area favoured the development of many small banks, “the free-banking”. Government banks on national area always have the tendency, beside their business activity, to monopolize the banking business for themselves. So the failure of a big national bank can be considered positively in the sense that it didn’t prevent the development of private banks. Especially New York changed from the concession to the normative

³⁵ Without that a set scientific language exists, we speak of „creeping inflation at an rate of inflation until 10%, of” trotting Inflation until 100% per year and of “galloping inflation“ or “hyper inflation at higher inflation rates”. Cagan, P.: The monetary dynamics of hyperinflation in Studies in the quantity theory of money. Published by Friedman, Milton. Chicago 1956. p. 25-1321 especially p. 25 speaks of hyper inflation only at an increase of the rates of price of 50% per month and more.

³⁶ Dewey (1918), p. 41

³⁷ See as well: Bullock, Charles J: Essays on the monetary history of the United States. New York and London 1900, p. 72

³⁸ Dewey (1918), p. 100f.

³⁹ Dewey (1918), p.151 and p. 208

⁴⁰ Dewey (1918), p. 225 and p. 260

⁴¹ Galbraith (1976), p.95f.

system. That means that the founder of a bank needed a permission of the government for the business activities until then, while he was now able to form a company, as long as a certain legal, normative conditions were satisfied.⁴²

With the Civil war from 1861 to 1865 started a long period when paper money was not exchangeable. The war was mainly financed by paper money of the Northern States in two ways:

- 1) by government paper money which was legal tender, the so called Greenbacks and
- 2) through national banknotes which were issued by the National Bank.

The National Banks were allowed to issue banknotes up to 90% of the government bonds of the United States kept with the treasury. The notes could be used for tax payments and could be exchanged into legal tender at the counter of the bank⁴³. While the prices in Greenbacks doubled during the Civil War, paper money issued by the confederation devalued so that the prices within the confederation in 1861 were 43 times the price of the ones in 1861. While paper money of the Confederation remained worthless, the Greenbacks were exchanged into gold by the treasury since January the first 1879 without that their circulation decreased.⁴⁴

In 1913 the Federal Reserve Act was started off and 1914 in the Federal reserve system was founded which included 12 central banks which had a communal board whose competences were still limited though. Issuing banknotes by the Federal Reserve Bank remained small for a while and only increased after the German War. By announcing bank holiday at March the 6th 1933 and the resulting legal action, only paper money existed in the United States.

4. France

France owed its first experience with paper money to the Scotchman John Law. He founded the Banque General in 1716. It was structured following the example of the Banque of England

⁴² Dewey (1918), p. 260 and Studensky, Paul, Kross, Herman E.: Financial History of the United States. New York, Toronto, London 1952

⁴³ Dewey (1918) P. 326f.

⁴⁴ Dewey (1918), P. 374f.

It took on part of the government debt and exchanged the notes issued by it into coins. Law managed to create a speculating climate, which made the stocks of the Banque General and its following organisations, as well as their notes very desirable.

During the period of the four years of total lifetime of Law's project, initially two organisations were founded (the Banque General and the Company of the Occident); one transformation was made (the Banque General into the Banque Royal), as well as one fusion (Banque Royal and Company of the Occident to the Company des Indes). The organisation was constantly changing. The stocks were only partly paid in, whereby an over proportional value increase of the partly paid in position occurred because of the resulting increase of the chart (leverage effect) Finally law introduced the dealing of options whereby the speculating fever reached its peak.

The notes were made attractive by defaming the coins several⁴⁵ times what in earlier times meant a common form of taxation of cash owners, while money deposited with the bank for banknotes was tax-free.⁴⁶ But the bank failed to fulfil the enormous task: For the stocks and banknotes, issued by itself, it took government bonds into payment. So the public received banknotes without interest instead of government bonds with a fixed interest rate. The need of these banknotes should have been created by giving them money function and by replacing the circulating money of the market supported by various laws. Finally payments in metal money were prohibited and at may the 1st 1720 also the ownership of gold.⁴⁷

A law of May 21st 1720, which decreased the value of banknotes to half their value was the only means to maintain the huge building out of paper. By this, however, the system collapsed immediately. Already the next day millions worth of stock and notes were completely worthless. After this experience, paper money could not establish itself during the next decades. Only in 1776 another bank was founded which issued banknotes, the Caisse d'Escompte, which ended in 1793⁴⁸ and the "Assignates" replaced its notes⁴⁹.

⁴⁵ The old coins were declared if invalid and were recoined and taxed by the government.

⁴⁶ Davis, Andrew Mc Farewell: An historical study of Law's system. In Quarterly journal of Economics. Volume 1 (1886) 87), p. 289-318 and P. 420-452, p. 316. All the statements of this paragraph are based on this study.

⁴⁷ Davis (1886/87), P. 447

⁴⁸ Compare: Achterberg, Erich: Artitel „Caisse d'Escompte“ . In: Enzyklopädisches Lexikon für Geld-Bank-und Börsenwesen. 3rd copy 1967

⁴⁹ The Statement follows White, Andrew Dickson: Fiat Money Inflation in France. In: Cato-Papers, No 11. San Francisco 1980 (1959)

As result of the French Revolution of 1793, paper money was issued that could not be exchanged into coins, the Assignates. The Assignates should have been an advance of an expected income out of the sales of church possessions deprived in 1789. The first issue of 400 Mio Livres in April 1790 taken positively by the public followed a second one of 800 Mio. In September 1792 already 2.8 billion Livres were in circulation, while the Assignates devalued more and more. In April 1798 those who demanded different prices depending if it was paid in Assignates or metal money were threatened with six years of prison. At September 29th 1793 maximum prices for all goods were introduced. In May 1794 those who informed themselves before the conclusion of a business, if the payment was made in metal money or Assignates was threatened with death penalty. The terror regime ended at July 27th with the execution of Robespierre and in December 1794 the maximum price regulation was again suspended. In 1796 government tried to re-establish confidence in new paper money by using new name: "Territorial mandates". In 1797 one was finally forced to suspend the obligation to accept Assignates and Mandates as legal tender because of their complete devaluation. Both kinds of paper money had devalued in the course of the galloping inflation.

The new thing of the "Assignates-Economy" was –compared to the hyperinflation of 1778/79 in the United States, that it succeeded in regaining the trust in the government politics after a hyperinflation, so that they could let follow a second one right after the first. This was achieved again only in Hung aria in 1945/46.⁵⁰

In 1800 the Banque de France was founded which since 1803 had the monopoly for notes in Paris and since 1848 all over France. During the times of the French Revolution of 1848 and the German-French War of 1870/71, the notes of the Banque de France were not exchangeable from 1848-1850 and from 1870-1878. At the outbreak of the Second World War, the bank was again released from the duty to exchange banknotes into metal money. After the war an exchange of notes into gold bars took place without that the convertibility of banknotes into coins was re-established and in 1936 the gold exchange of bank notes was stopped again.

⁵⁰ Nogaro, Bertrand: Hungary's Recent Monetary Crisis and its Theoretical Meaning. In: the American Economic Review. Vol. 38 (1948), P. 526-542

5. Germany

At the foundation of the Reich in 1871 existed 20 states, which issued fiat paper money, and 33 banks issued banknotes. The Austrian National Bank and the Prussian Bank were the most important ones.⁵¹ The Austrian National Bank, founded in 1816 had far more notes in circulation than the other banks. The Prussian Bank was founded only in 1847. Their notes were exchangeable into metal money and had to be accepted by the public counters, but were not a legal tender. In 1871 existed 33 banks of issue in the later area of Germany Reich.⁵²

The Forerunner of the Prussian Bank was the Royal Giro-and Loan bank founded in 1765 in Prussia, also called Royal Bank. Since 1766, it had the right to issue banknotes. But the bank itself was not obliged to exchange these notes, the Bankhaus Ph. Clemens&Co intervened to hold the parity to the coin, though since 1768 the Royal Bank itself was obliged to exchange after a disagio of the paper money could not have been avoided. In 1806 the bank stopped the payments because of the Napoleonic Wars and only started issuing notes in 1820, but only in very small amounts.⁵³

After the foundation of the Reich, the Reichsbank was founded by the bank act in March 1875, which started its business activity at January 1st1876. The notes issued by the Reichsbank were only legal tender since 1909 and existed together with the notes of other banks of issue whose issues was limited though.⁵⁴ With the outbreak of the German War in 1914, the exchange of banknotes into gold coins was ceased.

Already during the war but especially during the post-war years until 1923 a massive expansion of the notes of the Reich bank took place until the amount circulating reached the volume of 496 trillions ($496 \cdot 10^{18}$) Mark. During the increase in the circulating of notes, the prices increased enormously. The period in which the prices increased ten fold, decreased enormously, that means the velocity of the inflation, apart from some breath takes, increased constantly.

⁵¹ A statistic at: Wagner, Adolph: Beiträge zur Lehre von Banken. Leipzig 1857, P. 343. He mentions 20 Banks for issues for 1856.

⁵² Borchard, Knut: Währungs- und Finanzpolitik von der Reichsgründung bis zum I. Weltkrieg. Währung und Wirtschaft. In: Währung und Wirtschaft in Deutschland published by D: Deutsche Bundesbank. Frankfurt 1976, p. 3-55, P. 3

⁵³ All datas from: Deutsche Reichsbank: Von der Königlichen Bank zur Deutschen Reichsbank. 175 Jahre Notenbankgeschichte. 20. July 1765-20. July 1940.o. O.o.J.

⁵⁴ For details see: Titel III: „Private Notenbanken“ des Bankgesetzes von 14. 3. 1875. RGLB vom 18. 3.1875, P. 177-198

Speed by which the price of the Dollar reached its tenfold value

1 Goldmark = 1 Papiermark	Datum		Price of the Dollar [Mark]	Period of time
1	July	1914	4,108	
10	January	1920	41,08	5,5 years
100	03. Jul.	1922	420,00	2,5 years
1 000	21. Oct.	1922	4 430,00	108 days
10 000	31. Jan.	1923	49 000,00	101 days
100 000	24. July	1923	414 000,00	174 days
1 000 000	08. Aug.	1923	4 800 000,00	13 days
10 000 000	07. Sep.	1923	53 000 000,00	30 days
100 000 000	03. Oct.	1923	440 000 000,00	26 days
1 000 000 000	11. Oct.	1923	5 060 000 000,00	8 days
10 000 000 000	22. Oct.	1923	40 000 000 000,00	11 days
100 000 000 000	03. Nov.	1923	420 000 000 000,00	11 days
1 000 000 000 000	20. Nov.	1923	4 200 000 000 000,00	17 days

Source: BENTE, Hermann: Die deutsche Währungspolitik von 1914 bis 1924. Weltwirtschaftliches Archiv, 23. Band (1926 I), S. 134.

With the increasing devaluation of money, the public switched to barter. At the evening counter of theatres, a pound of bread was asked as an entrance fee. Credit transactions ceased. Credits were only granted for 1 day. The rate of interest reached 10% per day. 132 printers and 30 paper factories were occupied with the productions of more and more new banknotes with a higher nominal value. The distribution was often not quick enough. In the midst of inflation there was scarcity of cash. That's why numerous issuers, companies and communities started to issue emergency money. The Reichsbank exchanged this later, as long as the issuer had deposits with the Reich bank. As the money had already decreased in value, the issuer had made a profit. Wages were paid daily in the mornings and were handed out on the same day, because the next day, they had no value.

The reason for this devaluation of money was the increase of the money volume, which had been caused by a high loan taking by the Reich at the Reichsbank. The deficit of the Reich was covered by Treasury bills, which were discounted at the Reichsbank and lead so to an increase of money in circulation. It was more than half of the public household between 1919 and 1923. The reasons for this high deficit were different ones: the revolution of 1918, the reparation payments, and the confiscation of the tariffs on the west border by France and the occupation of the Ruhr-area

The exchange rate of the Dollar, still defined in gold in 1923, increased to 4.2 billion Mark, on which base the Mark was stabilised since November 20th 1923⁵⁵. Through the act at June 26th 1922, the Reich bank became finally independent. As it finally stopped giving credit to the Reich, the inflation was stopped. Through the Dawes-plan in 1924, half the directors were put by the Allied and Associated Powers. Since 1924 the Reich bank started to fix the price of the Dollar by buying US-Dollars which themselves were exchangeable into gold. Since 1930 even the Reich Mark itself could be changed into gold. This regulation, which was planned in the bank act of 1924,⁵⁶ then came into force formally.⁵⁷

During the World Economic Crisis in the Darmstädter – and National bank (DANAT- Bank) stopped their payments.⁵⁸ As a result of this payment stop in July 14/15 were declared bank holidays. After this bank holiday, the Reich bank ceased the exchange of their notes into gold and foreign currency. By emergency regulation of July 15th and 18th as well as of August 31st 1931, foreign exchange controls were introduced to reduce capital flight⁵⁹. With the act about obligations towards foreign countries of July 9th 1933⁶⁰ a foreign exchange authority (Konversationskasse) was introduced. It was occupied with debts of Germans towards foreigners according to exchange-in-flows. The obligations to offer amounts higher than 2 Marks by exporters and the distribution of foreign exchange to importers are described in contemporary monographs from Luckas and Lossos⁶¹. The enforcement of foreign exchange controls was not possible without Draconian punishments. Already the intent to break the foreign exchange controls was

⁵⁵ Pfeiderer, Otto: Die Reichbank in der Zeit der großen Inflation, Die Stabilisierung der Banken und die Aufwertung von Kapitalforderungen. In: Währung und Wirtschaft in Deutschland 1876-1975, published by: Deutsche Bundesbank. Frankfurt 1976. S. 157-201

⁵⁶ RGLB II from 30.4.1924, P. 235-252

⁵⁷ Compare Stucken Rudolf: Deutsche Geld- und Kreditpolitik 1914-1963. 3. Copie J.C.B: Mohr (Siebeck): Tübingen 1964, P. 81

⁵⁸ See: Stucken, Rudolf, Deutsche Geld- und Kreditpolitik 1914 – 1963, 3. Ed. J.C.B: Mohn (Siebeck): Tübingen 1964, P. 81

⁵⁹ Verordnung über den Verkehr mit ausländischen Zahlungsmitteln vom 15.7.1931. RGLB. I, P. 366. Verordnung des Reichspräsidenten gegen die Kapital- und Steuerflucht vom 18.7.1931. RGLB. I P. 373 und Verordnung des Reichspräsidenten über die Devisenbewirtschaftung vom 1.8. 1931 RGLB. I, P.421

⁶⁰ RGLB. I 1933, P. 349

⁶¹ Luckas, Hans: Theorie der Devisenbewirtschaftung aufgrund der deutschen und ausländischen Erfahrungen in der Zeit von 1914-1940. Jena 1940 and Lossos, Harald: Bilanz der deutschen Devisenbewirtschaftung. Heft 29 der Münchner Volkswissenschaftlichen Studien. N: F. Published by: Kelter, E., Lotz, W., and others Jena 1940 More Literature at Stucken, Rudolf: Deutsche Geld- und Kreditpolitik 1914-1963. 3. Copy J.C.B. MOHR (Siebeck) Tübingen 1964, P.92

threatened with 10 years of prison.⁶² The foreign exchange controls opened the doors to a centrally planned economy. Because of the necessity to distribute foreign exchange to importers and the obligation of the exporters to hand in foreign currency, the introduction of a centrally planned economy was even enforced.

The foreign currency controls delivered the public to the budget policy of the government. It enabled to fix maximum rates of interest on credits and deposits by a cartel of banks approved by the state at January 9th 1932. The fixation of interest rates for deposits and credits remained in force during 35 years and was only ceased in the GFR in 1967. The foreign exchange controls enabled several conversions of bonds without that capital flight had to be feared.⁶³ A Conversion of bonds means to decrease interest rates. Bonds of bond owners, who refused a decrease of the interest rate could not be used as collaterals with the Reich bank and were excluded from the bond market (Trading on bond exchange).⁶⁴

Already in 1931 a Reich detective was used to survey the prices.⁶⁵ The national socialists continued consequently this policy of price-fixation after they had taken on the power at January 30th 1933. You have to consider though that the national socialist were as little required for the formulation of the policy of price-fixations as for the invention of armament politics.⁶⁶ The act on the cooperation of farmers („Reichnährstandgesetz“) was of September 13st 1933 allowed possibilities to regulate prices on agricultural goods.⁶⁷ After many regulations already since 1934, increases of prices were forbidden backdated to October the 18th 1936 at November the 26th 1936.⁶⁸ Fixed Prices for products could not be maintained without fixed wages. While the public was at first favourable to the fixed prices and rents introduced in 1936, not knowing the consequences, it had to pay the bill only one and a half a year later in form of the fixed maximum wages.⁶⁹ The wage-fixation is not an invention of the Communists, but in the area of the communist German

⁶² §42 des Gesetzes über Devisenbewirtschaftung vom 8. Februar 1935. RGBL. P. 106-113

⁶³ 4. Reichsnotverordnung vom 8. Dezember nebst Durchführungsordnung des Reichswirtschaftsministerium

⁶⁴ Stukken, Rudolf: Deutsche Geld-und Kreditpolitik 1914-1963. §. Copy J.C.B. Mohr (Siebeck): Tübingen 1964, P. 144

⁶⁵ Verordnung über die Befugnisse des Reichskommissars für Preisüberwachung vom 15.4.1932 RGBL. I, P.180

⁶⁶ Compare Höhne. Heinz: Die Machtergreifung. Deutschlands Weg in die Hitler-Diktatur. Rowohlt Taschenbuch Nr. 39 Spiegel Verlag: Hamburg 1983

⁶⁷ Gesetz über den vorläufigen Aufbau des Reichsnährstandes und Maßnahmen zur Markt-und Preisregelung für landwirtschaftliche Erzeugnisse vom 13.9.1933. RGBL.I, P.626

⁶⁸ Verordnung über das Verbot von Preiserhöhungen vom 26.11.1936. RGBL: I, S 955

⁶⁹ Verordnung über die Lohngestaltung vom 25. 6. 1938. RGBL. , P. 691

democratic republic it remained in force for more than 50 years until the Contract of the Economic, Monetary and Social union between the GDR and the GFR came into force at July the 1st 1990. At the same time, in 1938, the obligation to work was introduced together with the direction of the work force and in 1939 the freedom to change employment was limited.⁷⁰ The dictatorship was finished and ready to go to war.

Condition for the acceptance of paper money in times of metal currency:

Paper money was accepted by the public because of its

- changeability into coins out of precious metal (for instance Sweden, England)
- payment of interests (for instance England)
- its acceptance for tax payments (for instance English colonies in America)

Transformation of an economic system from a market economy to a centrally planned economy at the example of Germany

<i>July 13th 1931:</i>	<i>Crisis of banks</i>
<i>July 15th 1931:</i>	<i>Introduction of Controls of foreign exchange</i>
<i>1935:</i>	<i>Intent to avoid controls of foreign exchange: 10 years prison sentence</i>
<i>January the 9th 1932:</i>	<i>Fixed interest rates for deposits and credits Reich's inspector to survey the prices</i>
<i>September the 13th 1933:</i>	<i>Fixed prices for agricultural goods</i>
<i>November the 26th 1936:</i>	<i>General price and rent fixation backdated to the 18.10.1936</i>
<i>June the 25th 1938:</i>	<i>Fixation of Wages</i>
<i>1938/39:</i>	<i>Control of work force (who should work where)</i>

Oil spot theory: one intervention into the market mechanism leads to further interventions into the market mechanism (a drop of oil instantly spreads over the whole puddle).

⁷⁰ Verordnung über die Sicherstellung des Arbeitskräftebedarfs für Aufgaben von besonderer staatspolitischer Bedeutung vom 22.6.1938. RGBL: I, P. 652 und Zweite Durchführungsverordnung zur Verordnung zur Sicherstellung des Kräftebedarfs für Aufgaben von besonderer staatspolitischer Bedeutung (Beschränkung des Arbeitsplatzwechsels) vom 10.3.1939

II. Paper money after World War II (RU: Great Patriotic War)

A. *Dissociation from gold, gold price and rates of inflation in the United States*

After the Second World War, there was only fiat paper money in circulation in the whole world. Only the Swiss National Bank was obliged since 1953 to defend the gold parity of the Frank and to observe certain price limits at the purchase and sale of gold.⁷¹

The US- Dollar was anchored (fixed) in gold such as the American monetary administration was prepared to exchange holdings of Dollars in the hands of governments into gold,⁷² as long as the countries concerned belonged to the International Monetary Fund and had obtained the dollar holdings by current account transactions. By this way of exchanging their money into gold and by renouncing to controls of foreign exchange, they met the requirements of the International Monetary Fund⁷³ to freely purchase and sell gold. (Article IV, paragraphe 4 (b)). From 1956 to 1958, the most important currencies of the world were exchangeable into US-\$, and these again into gold for foreign monetary administrations. This monetary system was valid until 1971, but its end could be predicted since 1967. In May 1967, the president of the Bundesbank obliged himself in a letter, pressured by the United States to the president of the Boards of Governors of the Federal Reserve System to not present any more dollar holdings for exchange into gold to the American Monetary Authorities⁷⁴. As chart 1 shows, the end of the exchange of Dollar into gold by Germany in 1967 preceded an increase of the rate of growth of

⁷¹ Swiss National Bank 1907-1957. o. O. o. J. (1957), p. 87. But the gold parity now is not defended any longer

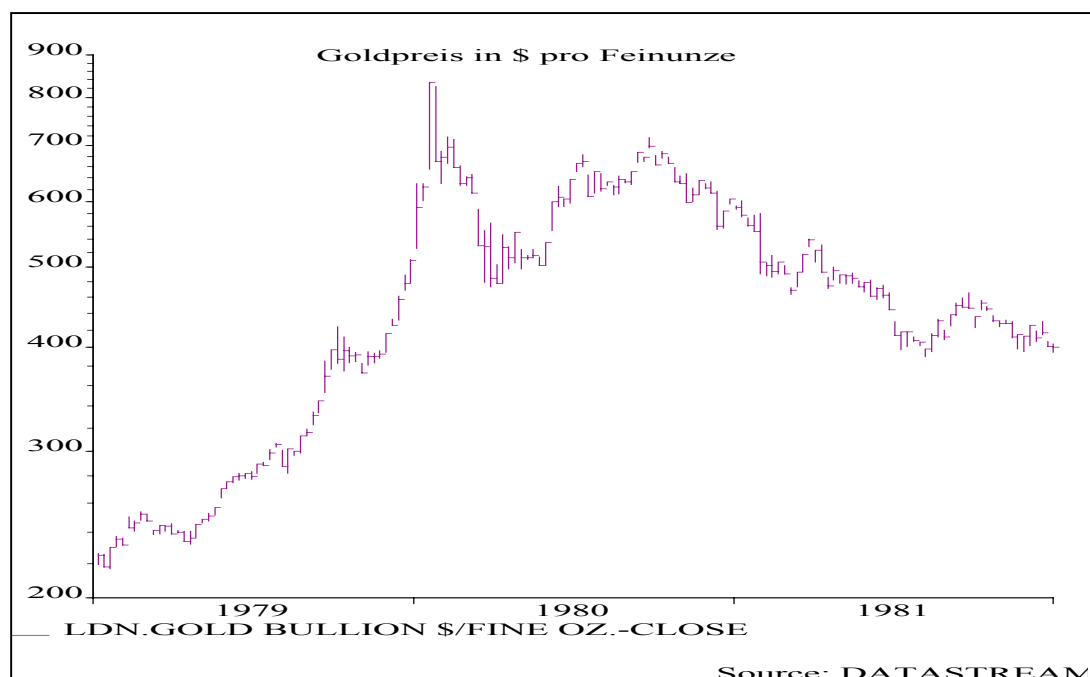
⁷² Gold, Joseph : The Code of Conduct in: Vries, Margaret; Horsefield J. Keith and others. The international monetary fund 1945-1965. 3. Volume Washington 1972 (1969). Volume 2, p. 547-566, p. 559f.

⁷³ The GFR joined the international monetary fund (IMF) founded in July 1944, at July 28th. 1952 (BGBL, p. 637)

⁷⁴ This letter of the president of the German Bundesbank to the president of the Board of Governors of the Federal Reserve System from May 12th 1967. In Deutsche Bundesbank: Auszüge aus Presseartikeln, Nr. 3, p. 3 This document, which is of highest importance for the organisations of the world monetary system and for the stability of all currencies of the world, was not noticed by the public and neither by science. The first quotation of this letter appears nine years later at Volgers, Gernot: Die Zahlungsbilanz der Vereinigten Staaten- Dominance and Dependence im internationalen Währungssystem. Berlin 1976, p. 92.

the central bank money 1964 – 1966 by 5.6% on average compared to 1.4% p.a. on average in the previous 13 years. Also if you look at the money volume M1 (central bank money plus sight deposits of non-banks with banks), a higher rate of growth in average results for the years between 1964 and 1966 compared to the previous 13 years, to say 4% compared to 2.4%.⁷⁵ At August 15th 1971, the United States abolished the convertibility of the US-\$ into gold and other foreign exchange reserves towards all countries.⁷⁶ As a result the, the price of Gold increased quite a lot (Pictures 1 and 2).

Since the paper money was completely dissociated from the gold, the annual rate of inflation rose in almost all countries. As chart 1 shows, the rate of inflation, the rate of growth of the money volume of the central bank, as well as the monetary volume M1 were a lot higher in the years between 1970 and 1980 than in the years from 1950-1970 in the United States. This is valid for the rates of inflation for the whole world⁷⁷. As you can see in chart 2:

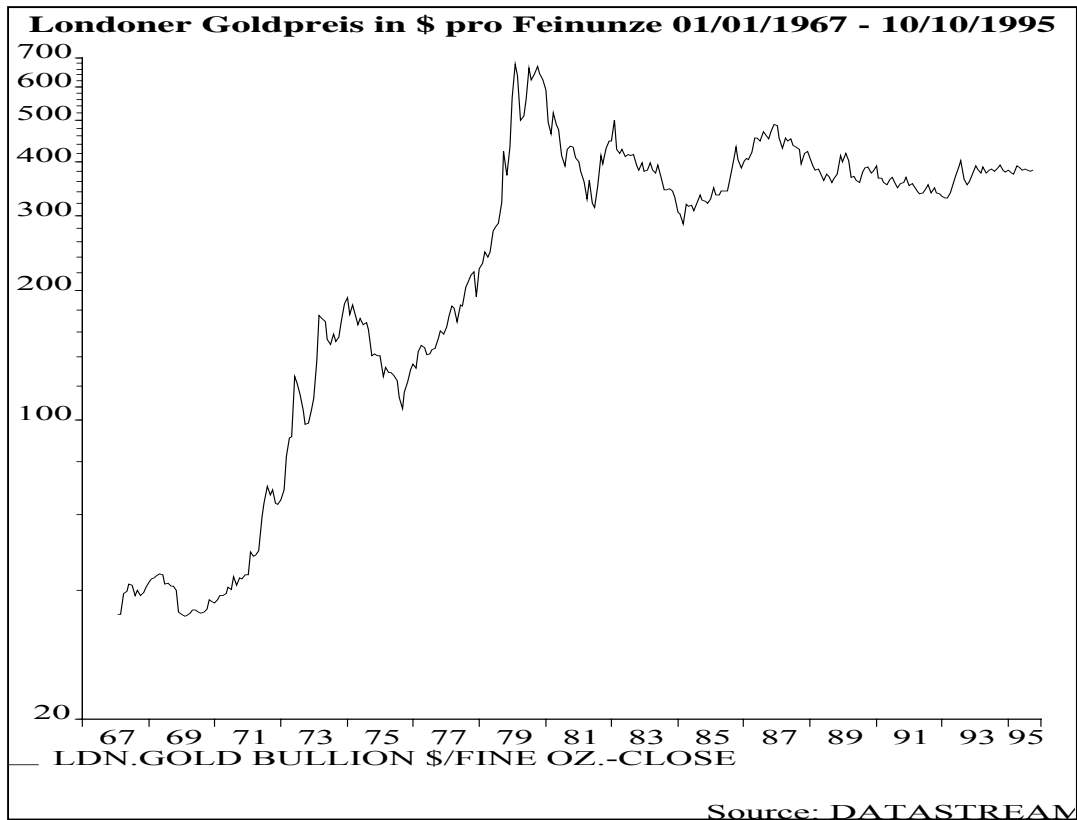


Picture1: Price of Gold 1979- 1981, US-Dollar/Ounce

⁷⁵ The average rate of inflation of n annual rates of inflations is calculated as the n-the root of the product of the annual factors of increase (1+ rare of inflation) minus one.

⁷⁶ Speech of president Nixon in television at august 15th 1971. In Deutsche Bundesbank, Auszüge aus Presseartikeln, Nr. 64 of August 17th 1971, p. 1-6 especially p. 2and 5

⁷⁷ Exceptions: Korea, Bolivia, Brazil and Paraguay, which already had two digit rates of inflation already in the 50ties and 60ties.



Picture 2: Price of Gold 1967 - 1995

Chart 1: Rate of growth of the consumer prices, growth of central bank money and money volume M1 in % compared to the preceding year in the United States from 1960 to 1995

Years	Consumer prices Rate of growth%	Central bank money Rate of growth %	Money volume M1 Rate of growth%
1951	8,1	8,6	6,3
1952	2,1	2,2	3,7
1953	0,8	1,0	1,4
1954	0,4	-3,0	3,1
1955	-0,2	1,6	2,3
1956	1,4	1,2	1,1
1957	3,6	0,2	-0,8
1958	2,7	-0,4	4,0
1959	0,9	0,2	0,9
1960	1,6	-0,2	0,1
1961	1,1	2,6	1,7
1962	1,1	3,4	1,5
1963	1,2	3,0	3,0
1964	1,3	4,8	3,6
1965	1,7	5,2	4,3
1966	3,0	5,9	4,5
1967	2,8	5,4	4,6
1968	4,2	7,6	7,2
1969	5,4	5,9	5,8
1970	5,9	5,1	3,6
1971	4,3	7,7	6,9
1972	3,3	6,9	6,6
1973	6,2	6,9	6,2
1974	11,0	8,3	5,4
1975	9,1	4,7	4,9
1976	5,7	5,9	5,5
1977	6,5	7,0	7,6
1978	7,6	9,5	8,0
1979	11,3	10,3	8,2
1980	13,5	7,1	8,1
1981	10,3	2,9	6,9
1982	6,2	5,0	6,0
1983	3,2	6,1	10,9
1984	4,3	7,7	8,0
1985	3,6	7,9	9,0
1986	1,9	10,4	15,2
1987	3,7	9,2	9,4
1988	4,0	7,3	4,7
1989	4,8	3,9	0,7
1990	5,4	6,9	9,9
1991	4,2	4,8	6,7
1992	3,0	7,6	11,0
1993	3,0	10,1	10,7
1994	2,6	9,8	6,0
1995	2,8	1,0	-0,8
1950-1960	1,0	1,1	2,5
1961-1970	1,8	4,5	3,9
1971-1980	7,8	7,4	6,7
1981-1990	4,7	6,7	8,0
1991-1995	3,1	6,6	6,6
1950-1995	4,1	5,0	5,4

Chart 2: Index of the consumer's price in selected countries from 1950 to 1990

	Index of consumer prices			Index of consumer prices - Average rate of growth in % p. a.			Period of time for which data are, available if not 1950 - 1990	
	1950	1970	1980	1990	1951-1970	1971-1980		1981-1990
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Industrial countries								
Australia	27,4	61,4	165,4	360,9	4,1	10,4	8,1	
Belgium	41,0	66,9	136,1	212,2	2,5	7,4	4,5	
Fr Germany	47,7	74,2	122,0	157,8	2,2	5,1	2,6	
Danemark	26,4	64,2	164,1	291,2	4,5	9,8	5,9	
Finnland	22,1	57,5	166,6	319,9	4,9	11,2	6,7	
France	25,6	65,4	164,1	302,2	4,8	9,6	6,3	
Great Britain	26,2	54,2	195,6	369,6	3,7	13,7	6,6	
Irland	23,3	53,7	193,2	405,0	4,3	13,7	7,7	
Island	5,9	32,7	558,6	2441,9	8,9	32,8	15,9	
Italy	29,6	58,4	213,2	542,5	3,5	13,8	9,8	
Japan	22,4	58,0	137,2	168,2	4,9	9,0	2,1	
Canada	43,2	70,2	152,1	270,7	2,5	8,0	5,9	
NewSealand	27,3	61,4	199,6	550,2	4,1	12,5	10,7	
Netherlands	32,7	66,0	133,8	170,2	3,6	7,3	2,4	
Norway	27,7	66,8	149,5	311,7	4,5	8,4	7,6	
Austria	29,8	70,3	129,3	182,6	4,4	6,3	3,5	
Sweden	29,1	68,2	164,7	341,8	4,4	9,2	7,6	
Swizerland	43,2	69,1	112,2	156,6	2,4	5,0	3,4	
Späne	18,7	56,7	229,5	558,6	5,7	15,0	9,3	
USA	44,7	72,1	153,1	242,6	2,4	7,8	4,7	
Developing Countries								
<u>Oil Exporting Countries</u>								
Iraque	52,7	73,8	128,8	----	1,7	5,7	----	1950-1978
Iran	26,5	63,7	211,0	1129	4,5	12,7	18,3	
Nigeria	26,6	52,8	204,9	1255,0	3,5	14,5	19,9	1953-1990
Venezuela	57,4	75,8	169,7	1378,6	1,4	8,4	23,3	
<u>Non Oil Exporting Countries</u>								
<u>Africa</u>								
Burkina Faso	44,9	72,6	166,4	238,3	4,1	8,6	3,7	
Chad	32,3	67,4	112,0	142,6	5,8	7,5	3,5	1957-1990
Ivory Coast	47,3	69,7	215,7	327,1	4,0	12,0	4,3	1960-1990
Ghana	18,1	45,9	1355,4	4,8E04	4,8	40,3	43,0	
Kenia	48,8	59,3	183,9	499,5	1,8	12,0	10,5	1959-1990
Kongo	34,7	68,3	156,7	177,2	5,0	8,7	1,4	1956-1989
Marokko	35,3	71,0	158,9	320,6	3,6	8,4	7,3	
Sierra Leone	41,9	66,5	170,7	8,4E04	3,4	11,0	67,9	1960-1990
Somalia	36,4	69,0	273,8	5543,4	3,8	14,8	45,6	1953-1988
Südafrika	34,4	64,1	175,3	687,0	3,2	10,6	14,6	
Sudan	26,9	48,2	233,3	6305,4	3,1	17,1	39,1	1951-1990
Tunesia	40,6	77,6	141,6	309,4	3,3	6,2	8,1	
Uganda	23,7	35,6	377,1	1,3E05	3,2	34,3	107,0	1957-1990

	Index of consumer prices				Index of consumer prices - Average rate of growth data in % p. a.			Period of time for which are available, if not 1950 - 1990
	1950	1970	1980	1990	1951-1970	1971-1980	1981-1990	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>Asia</u>								
Bangladesch	12,9	24,8	144,0	227,6	4,2	19,2	4,7	1954-1990
Burma	35,4	44,1	120,8	261,9	1,1	10,6	8,0	
India	25,5	57,9	121,5	283,8	4,2	7,7	8,9	
Corea	0,9	49,1	221,3	406,4	23,4	16,2	6,3	1951-1990
Malaysia	55,9	70,3	124,7	171,1	1,2	5,9	3,2	1950-1990
Pakistan	28,8	45,8	153,9	301,4	2,9	12,9	7,0	1956-1990
Philippins	26,8	48,0	172,6	620,7	3,0	13,7	13,7	
Singapur	54,4	60,6	119,6	149,6	1,1	7,0	2,3	1960-1990
Sri Lanka	48,8	69,7	160,5	508,7	1,8	8,7	12,2	
<u>Europe</u>								
Greece	25,9	56,0	212,5	473,0	3,9	14,3	8,3	
Jugoslawia	11,2	41,4	228,1	1,7E06	7,1	18,6	144,1	1951-1990
Malta	47,3	75,2	143,7	179,3	2,3	6,7	2,2	
Portugal	28,9	49,6	266,3	1285,6	2,7	18,3	17,1	
Turkey	9,7	42,5	761,1	3,5E04	7,7	33,4	46,6	
Cyprus	50,7	69,8	148,8	239,4	2,2	7,9	4,9	1955-1990
<u>Middle East</u>								
Agypt	53,2	74,9	183,1	873,1	1,7	9,4	16,9	
Israel	5,9	33,9	1097,1	8,0E05	9,1	41,6	93,3	
Syria	39,0	59,0	163,0	1164,3	2,1	10,7	21,7	1950-1990
<u>Western Hemisphere</u>								
Argentine	0,2	8,3	21524	1,3E10	23,0	119,5	340,1	1952-1989
Bolivia	0,2	39,2	219,8	1,4E06	30,2	18,8	141,5	
Brazile	0,5	38,5	790,2	5,3E06	39,7	35,3	141,5	1957-1990
Chile	0,1	0,4	1511,3	9624,8	31,1	127,9	20,3	1963-1990
Columbia	7,9	44,2	297,6	2487,5	9,0	21,0	23,7	
Costa Rica	34,9	52,7	147,4	1434,7	2,1	10,8	25,6	
Domin.Republic	46,3	59,6	160,5	1448,2	1,3	10,4	24,6	
Ecuador	32,2	53,2	174,1	3867,8	2,7	12,6	36,4	1951-1990
El Salvador	46,1	66,2	184,4	1053,0	1,8	10,8	19,0	
Guatemala	56,2	66,6	166,1	638,9	0,9	9,6	14,4	1950-1990
Guayana	52,5	69,2	182,6	936,4	2,0	10,2	14,8	1953-1990
Mexico	21,4	56,7	262,1	4,0E04	5,0	16,5	65,2	
Netherl.Antilles	55,2	63,0	153,3	223,5	1,2	9,3	3,8	1959-1990
Panama	60,5	70,7	139,2	166,7	0,8	7,0	1,8	1950-1990
Paraguay	3,0	57,9	198,2	1415,7	16,0	13,1	21,7	1950-1990
Peru	0,7	55,2	772,0	1,3E10	8,5	30,2	428,4	1954-1990
Surinam	39,5	67,5	172,3	440,3	3,4	9,8	14,3	1952-1990
Trinid. u Tobago	33,2	53,9	183,6	523,2	2,7	13,0	11,0	
Uruguay	0,0	7,2	939,6	1,1E05	29,6	62,8	60,3	

Quelle: Own calculations. Data from: International Financial Statistics, Different Yearbooks.

Table 1: Functions of money

Where do amounts of money appear?	Functions of money
1. In accountancy and in calculation of costs	1. Unit for calculation 2. Measure of wealth between two points in time 3. Standard to define risks and uncertainties
2. In the context of purchase and barter arrangements - to express prices - in return for something	4. Standard of value, numéraire 5. General medium of exchange
3. In the context of credit contracts - to define the amount to be repaid - to define the medium of the owed payment	6. Standard of deferred payment 7. Means to transfer capital 8. Means to pay debts
4. In donations and tax payments	9. Means of payment
5. As a hoard	10. Store value 11. Means to obtain social prestige/status 12. Reserve asset

B. Definition of Money

The result of our historical observations is, that there cannot be a general answer to the question what money is. The question has to be answered rather differently for every country and period in history and even after this specification a general answer is impossible. Nevertheless a few points of reference can be given: Primarily those objects are considered money, which are legal tender within a society. With these objects, debts can be paid. Apart from this mostly those objects will be money which are accepted by the tax office for tax payments by citizens. Also transferable rights will be considered money, if they are exchangeable at any moment at a fixed rate into legal tender or into objects which can be used to pay taxes. This would be mainly banknotes and deposits with private or public banks.

In literature the question what money is, is often answered, that those objects can be considered money, which fulfil the functions of money. (Money is what money does). By this the definition problem is shifted to the question what the function of money is. You can distinguish the functions of money from the appearance of amounts denominated in currency units (Table 1).

Ideally one object could fulfil all these functions. Gold coins should have fulfilled all these functions approximately in the year 1900 in wide parts of Europe and in the USA. But normally objects called money only fulfil some of these functions. Often fulfilling the function of a general or exchange medium is enough to call these objects money in general language. Contrary many people do not consider money an object, which is used as a value-store as for example the Kruger Rand. Even though it is a legal tender in South Africa (as such it is not used though, as the material value of the gold contained in it is much higher than the defined nominal value. (The good money is crowded out of circulation)). Objects without material value as such, practically mainly fiat paper money is brought into circulation by the government by accepting it for tax payments. The sole declaration of an object as a legal tender is not sufficient to convert it into a generally accepted medium of exchange if it meets the other requirements badly. A repudiation or rejection of the money occurs. This often happens in the final days of inflation, for example you had to pay theatre plays with bread in Germany in 1923, as money would have been worthless the next day. Jonathan Swift agitated in 1724 against half-penny-coins whose material value was far underneath the defined value in precious metals (token money). In 1725 the privilege for a private company to mint this token money was in fact withdrawn⁷⁸. As we encounter money in many different forms of appearance and conceptual expressions in historical examinations, neither looking at the functions of money leads finally to a general definition.

C. Amount of central bank money, money volume and money creation

Money volume M1 in the German Federal Republic (GFR) in 1995 consisted of

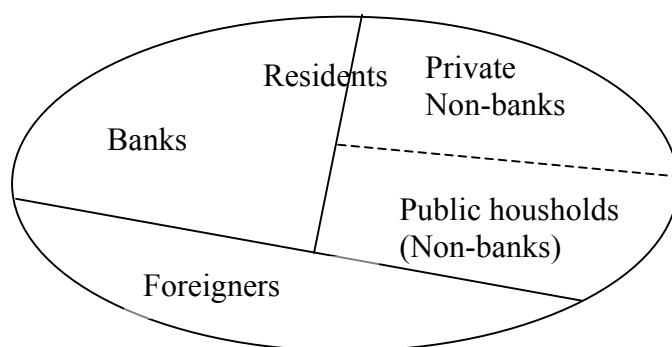
- (1) coins issued by the government,
- (2) banknotes emitted by the Deutsche Bundesbank in hands of non-banks and
- (3) sight deposits of non-banks with banks.

Banknotes are legal tender, because of the first act to reorganize of the banking system (currency act) which came into force in January 20th 1948 by acts of the

⁷⁸ Swift Jonathan. *Ausgewählte Werke*. Berlin und Weimar 1967, Bd. 1, p. 42 and Band 2 , p. 322-446: Erster bis siebter Tuchhändlerbrief

military governments of the territories controlled by the Americans and the British as well as of the French supreme command. Coins are legal tender in limited amounts by the act over the minting of token coins of July 8th 1965 (BGBL I. S. 323): Nobody was obliged to accept coins in German DM in the value of more than 20 Marks and coins in Pfennig of more than 5 German Marks. The acceptance of giro deposits with banks was based on the fact, that you can exchange them into legal tender at any time.

For analytical purposes, coins, banknotes and sight deposits with the central bank form the money of highest liquidity. As this money has the highest payment power, an according aggregate (without deposits of the government with the central bank.) is called “high-powered money” in American literature. If you subtract the sight deposits of banks with the central bank from the total volume of “high powered money”, you get the amount of money in circulation. For analytical purposes, money volumes are distinguished by their owners: For this purpose we first of all divide the total of all economic subjects into domestic subjects and foreigners. Within the domestic subjects we distinguish banks and non-bank, within the non-banks again, private non-banks and general households. The total of the foreigners is not classified into banks, non-banks and general households, as the official statistics do not contain an according classification and its importance is analytically uncertain.



In the past it was argued about, if only sight deposits or as well fix-term – and saving deposits are considered money as well. Even though this argument is not finished, it has calmed down by defining money aggregates. Those, which contain apart from money circulating only sight deposits with banks form the volume M1, those, which contain as well fix-term deposits form M2 and those which contain saving deposits

M3.⁷⁹ In monetary discussions, it is convenient not to use the general vague expression “ money “. Instead one of the definitions of the following table should be used, according to which concrete aggregate you refer to.

D. The money multiplier

The ratio between the total volume of money created by the state (money of highest liquidity, monetary base, high powered money) and the money volume M1, the volume which is finally available for non-banks, is of special importance. The latter is different from the money of highest liquidity by not containing on one hand the deposits of the central bank with the IMF, but therefore containing on the other hand sight deposits of non-banks with the IMF. By balance, the money volume M1 is empirically not necessarily higher than the volume of money of highest liquidity. The ratio between money volume M1 and the total volume of money of highest liquidity is called money multiplier, because it indicates to how much the money volume can be increased by the activities of IMFs compared to the money supply created by the government. As the following table 2 shows, the multiplier fluctuates between 1.3 and 1.8 between 1965 and 1981.

⁷⁹ These are the language conventions used by the Deutsche Bundesbank . In the United States M1, M2 and M3 have different meanings Compare: Federal Reserve Bulletin, Table A3

Table 2: Different money aggregates:

Banknotes + Sight deposits with banks	+ Coins = cash, hand to hand money
+ Central bank money + Coins	- Holdings of national public households of money of highest liquidity = high powered money
= Money of highest liquidity - Sight deposits with the central bank	
= Money in circulation - Cash balance of the monetary financial institutions (I M F)	
= Money in circulation outside of the banking system (with the cash balance of the IMFs) + Sight deposits of national non-banks and of foreigners with banks	+ Sight deposits of banks with other banks = money in account
= Money volume of national non-banks and of foreigners - Money volume of foreigners - Money volume of the government	
= Money volume of <u>private</u> national non-banks + Over night deposits of regional and local communities	
= Money volume M1 (according to the definition of the European Central Bank (ECB)) + Fix-term deposits of national non-banks with a maturity up to two years + Saving deposits of national non-banks redeemable at a period of notice up to and including three month	
= Money volume M2 (according to the definition of the ECB) + Marketable instruments, i.e. repurchase agreements, money market fund shares, and debt securities with an agreed maturity of up to and including two years issued by MFIs	
= Money volume M3 (according to the definition of the ECB)	

The comparison of the rates of growth of central bank money and the one of the money volume M1 shows, that the multiplier was stable for a longer period in time in the GFR, even though fluctuations existed in certain years (Table 3). The ratio between a variant of the money volume (M)⁸⁰ and the total amount of money of highest liquidity (S) can be written as follows according to the definition of the money volume (M)

$$(1) M = S + D \text{ and}$$

the money of highest liquidity

$$(2). S' = S + R,$$

whereby

S' = money of highest liquidity

S = money of highest liquidity in the hands of non-banks

R = reserves of banks of money of highest liquidity

D = deposits with banks

$$(3) M/S' = (S+D) / (S+R)$$

The units M and D are always interrelated: If M is interpreted as M1 then D contains only deposits redeemable at notice of domestic non-banks, if M is interpreted as M2, then D contains as well fix-term deposits with a maturity of up to and including 2 years and deposits redeemable at a period of notice of up to and including three months. If M is M3 also in D there are also included money market funds, repurchase agreements, and with a maturity of up to and including two years issued be MFIs.

With the extension $D / (R \cdot S)$

You can write as well

$$(4) M = S' \frac{D/R(1 + D/S)}{D/R + D/S}$$

⁸⁰ Depending on using the total amount of money of highest liquidity as a denominator or decreasing it by the stock of national public households and using high-powered money as a base, differences in the amount of the multiplier result, which are insignificant for the selected period of time though.

The equation shows clearly the dependence of the size of the multiplier on the minimum reserves ($1/(D/R)$) and on the size of the deposit/cash- ratio of the public. The minimum reserves indicate the percentage of deposits of non-bank with banks, in whose amount the banks are obliged to hold reserves of central bank money. The deposit-cash- ratio reflects the payment habits of the public and the trust of the public into the solvency of deposit banks. The deposit-cash-ratio decreases if people hold more cash and only a few deposits. The same is true at mistrust into the solvency of banks as it could be observed mainly in the United States in the years from 1931 and 1933.⁸¹ Are D/R and /or D/S increasing, the multiplier is rising as well because they are multiplied in the numerator and only added in the denominator.

Table 3: High-powered money, money volume M1 and the money multiplier in the Federal German Republic from 1965 to 1981

<i>Time</i>	<i>Money volume M1¹⁾ Billion DM</i>	<i>High-powered money²⁾ Billion DM)</i>	<i>High-powered Multiplier³⁾</i>
	(1)	(2)	(3) = (1) : (2)
1965	79	49	1,6
1966	80	53	1,5
1967	88	51	1,7
1968	93	54	1,7
1969	99	56	1,8
1970	108	68	1,6
1971	122	79	1,5
1972	139	99	1,4
1973	143	107	1,3
1974	158	106	1,5
1975	180	108	1,7
1976	187	120	1,6
1977	208	129	1,6
1978	238	140	1,7
1979	248	156	1,6
1980	257	154	1,7
1981	255	153	1,7

Source: Monatsberichte der Deutschen Bundesbank

⁸¹ Friedman, Schwarz (1971). A monetary history of the United States. P. 333

- 1.) Money volume M1 = Money in circulation outside the banking system
+ Sight deposits of domestic non-banks with banks
- 2.) High-powered money =
circulation of bank notes
+ Deposits of domestic IMFs with the Deutsche Bundesbank (DBB)
+ Deposits of domestic enterprises and private persons with the DBB
+ Deposits of foreign investors with the Deutsche Bundesbank
+ Volumes of circulating coins
- 3.) Multiplier = Money volume M1/High-powered money

E. Money surrogate

As to purchase goods, you need money; it is natural to assume that money supplies limit the purchase possibilities. As reasonable as it seems at first, as serious objections are to be made against this concept. First of all, expenses are measured in the dimension “DM/period”. So only out of analytical reasons, the stocks of money cannot be the upper limit for expenses. In the analysis of Keynes, you assume that expenses depend on income, not on the stocks of money. Apart from this, other objects than money can be used without much effort to purchase goods. In this chapter we would like to address to this aspect.

At first coins, banknotes and sight deposits with banks can be used in daily life to purchase goods. By using sight deposits with banks as a tender, you might not be able to receive goods immediately, as the seller might wait, if the cheque is covered or until the transfer comes in. Therefore already sight deposits with banks are almost, but not completely substitutes for bank notes and coins.

Now you cannot only use sight deposits, but also fix-term- and saving deposits for payments. For the charge of interests on out payments of immature savings accounts, banks are normally prepared to pay back such deposits before the time of maturity. How close sight deposits and saving deposits can be together, show instruments of the US-banks as for example the ”negotiable order of withdrawal (NOW)” or the “automatic transfer service accounts (ATS). The first ones are saving accounts, where you can do withdrawals with forms similar to cheques and the latter are saving accounts where transfers are made to a giro account, as soon as it shows a deficit. In the monetary statistic of the GFR, fix-term deposits up to (4 years) and saving

deposits redeemable at a period of notice of up to and including three months belong to money aggregates M2 respectively M3. The ECB includes into M1 deposits redeemable at notice, into M2 saving deposits redeemable at notice of up to and including three months and fixed term deposits of up to and including two years (see Table 2).

In US statistics of money supplies, NOW- and ATS-accounts are considered money aggregate M1.

A further money substitute, which has established itself since the end of the seventies, is money market funds. Whereas NOW- and ATS accounts were developed, because in the United States, it is prohibited to pay interests on sight deposits, market money funds were founded, because US-brokers are not allowed to accept deposits. The owners of shares of a money market fund participate in a multitude of loans of the fund to banks and other financial institutions. If an investor wishes to withdraw his money, the investment fund uses money inputs of other investors, repays from money market investments or repays of transfers of money market investments to third parties. Similar to a bank, which lends money over longer periods than it is entrusted with by the investors, and still is always liquid, also a money market fund can promise its investors to fulfil withdrawal wishes normally immediately, even if the money is fixed for a certain amount of time. As long as exchange trading for bonds and shares exists, also bonds and shares can be transformed into money at any time by accepting certain reductions in price compared to the purchase price or book value. At US-brokers, cheques can be withdrawn for portfolio investments. Brokers advertise: "Let your money work and keep a grip on your purchase power at the same time."

We call assets, which can be transformed easily into money as "money surrogates", as "liquid assets" or "near-monies". But almost all assets have the quality to be more or less easily turned into money. An exchange trading not only exists for bonds and stocks, but also for gold and other metals, for commodities and agricultural goods. A non-exchange trading market finally exists for all goods and therefore all saleable assets are more or less liquid.

An asset is the more liquid

- the shorter the self-liquidation period and
- the less the disagio are, which have to be accepted compared to the book value.

The determinants of the liquidity of assets are their self liquidation-period and their shiftability. The shiftability of assets depends again on the risk change in quality, on the risk in value, their market depth and the transaction costs with shifting them.⁸² In Table 3 assets of low respectively high liquidity are listed.

Most of the chosen examples can be understood without further explanations. It should only be explained why short-term credits have a high degree of liquidity and long-term credits a low rate, not only because of their self-liquidation period, but also because of their different risks in fluctuations in price. With equal rates of interest on a long-term and a short-term credit (4% p.a.) and does it increase for instance by two percentage points (to 6%), the cash-value of an one year title decreases from 100 to 98, the one of an eternal annuity (C) according to the present value formula from 100 to $66 \frac{2}{3}$:

Present value formula of an eternal annuity: Present Value = Annuity/Capitalisation rate, $PV = C/i$

$$4/6 * 100 = 66 \frac{2}{3}.$$

Instead of using money to purchase goods or of liquidizing assets, you can take a loan. Here you think first of credit lines which the bank already offers. If the bank doesn't offer credit lines, you can take a loan on your portfolio holdings with the bank, if you own one.

Because of all these reasons, it is understandable that many monetary theorists refuse to concede a major role to stocks of money in the restrictions of purchase possibilities. Considering all money surrogates including credit possibilities, the scope of financial possibilities of an economic subject moves into the foreground.⁸³ The potential credit margin has the advantage of a bigger plausibility compared to the money aggregates as measurements of limits to purchase, but at the same time the disadvantage, that is nearly impossibility to make quantitative assessments. So an aggregation of many economic subjects seems not reasonable, because the problems of evaluation of assets are too big.

⁸² Compare Stützel, Wolfgang: Article „Liquidität, betrieblich“. In: Handwörterbuch der Betriebswirtschaft. Aufl.3. Stuttgart 1975

⁸³ This position is held in the Radcliff-report (Committee on the Working on the monetary system: Report presented to the parliament by the Chancellor of the Exchequer by Command of Her Majesty. London 1959) Clause 390, p. 132 and Stützel, Wolfgang: Bankpolitik- heute und morgen. Frankfurt 1964, Clause 21, p. 18.

Table 3: Liquidity of assets

Determinants of liquidity...	...of goods		...of claims	
	Higher degree of liquidity	Lower degree of liquidity	Higher degree of liquidity	Lower degree of liquidity
Self-liquidation period	Stocks, provision	Buildings	3-month bill of exchange	Mortgage bond
-Shiftability Risk of change in quality	<i>Gold</i>	<i>Strawberries</i>	<i>Deposits with bank</i>	<i>Claims against a private construction company</i>
Risks of fluctuation of price	<i>Wheat (agricultural market order)</i>	<i>Copper</i>	<i>Short-term credits</i>	<i>Long-term credits</i>
Demand elasticity; market depth	<i>Cars</i>	<i>Antics</i>	<i>Tatneft shares</i>	<i>Rostovenergo shares</i>
Transaction costs	<i>Goods traded on the stock exchange</i>	<i>Real estate</i>	<i>Bonds</i>	<i>Shares and stocks</i>

F. The Quantity theory

1. The naïve quantity theory

The naïve quantity theory means that prices are increasing by the same rate, by which the money volume is increasing. To claim to be a testable theory, it has to be at least specified

- which price index measures the price level,
- which money aggregate is used and
- for which period of time the causal relationship is valid.

All three problems are theoretically unsolved. As price index can be taken in consideration for example, the price index of gross national product, the consumer price index, or the wholesale price index. For the money volume you can take into consideration the central bank money, M1, M2, or M3.

To create ratio-numbers between an absolute price index and the money volume gives you a number, which doesn't make sense. It's rather reasonable to put their percentage changes in relation to each other. As at least small time lags between the two quantities are probable, the relation becomes more loose, the shorter the selected periods of time are, of which you take measurements. The annual rates of change of the central bank money and the one of the consumer price index diverge a lot more than the changes over a longer period of time.

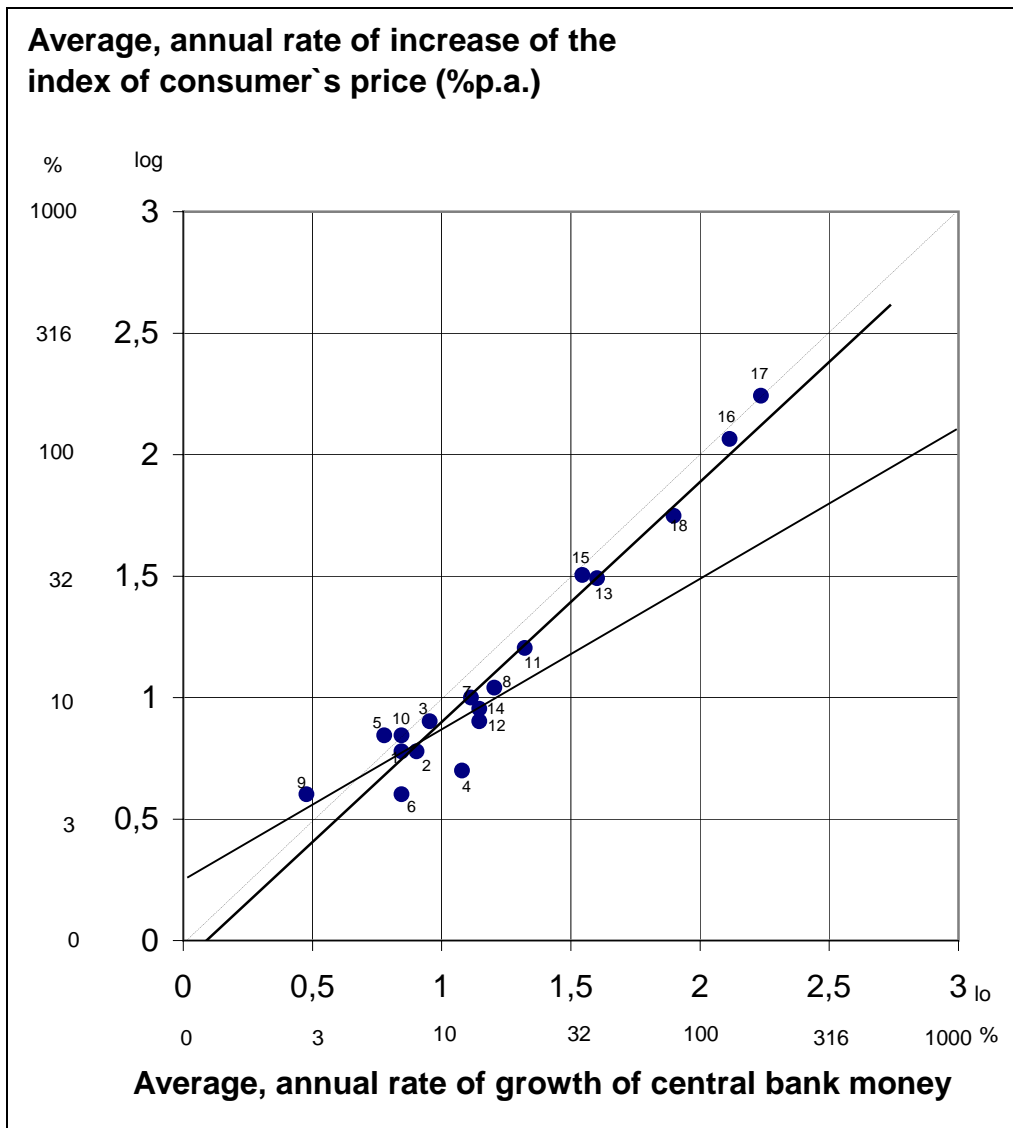
Therefore quite a long period of time of 25 years has been chosen in Picture 3 to show the ratio between central bank money supply and consumer price index. As Picture 4 shows, the rate of growth of the money supply of the central bank corresponds considerably with the one of the money volume M1. The choice of the money volume should not be a problem. As it is an international comparison, the choice of more complicated aggregates as M2 or M3 is doesn't make sense to me, because these are defined differently in every country because of different institutional circumstances. The long period of 25 years was selected, so that the time lag doesn't concern the relation between the two quantities, as it is not clarified

- if a time lag in the causal relationship between the two quantities exists,
- how long it is, and
- if it is constant.

In Picture 3 the average annual rate of growth of the consumer price index of the and the one of the central bank money of the central bank are compared to each other in selected countries in the period between 1966 and 1991. The selection of the countries are made by different criteria. First of all the most important industrial countries were included into the graphic, because the statistical data is quite reliable, on the other hand countries with a population of more than 50 million, as well as Argentina and Chile, because they have high rates of inflation. Not mentioned are the Republic of China and the Soviet Union, because for China, data material is not available and in the Soviet Union, the index of price results from fixed, regulated prices and therefore is not meaningful.

Would the naïve quantity theory be true, the points of the graphic would all lie on the 45 line. That is valid – surprisingly - for the UK and in the period of time between 1950 and 1980 also for the United States: In the other countries, with the exception of Switzerland and France, the growth of the central bank money was higher than the rate of growth of the consumer price index. The naïve quantity theory can therefore not be valid in this sense as the 45-line is not identical with the line of regression.

Nevertheless a relation between the rate of growth of price and the one of the central bank money is evident. Obviously there are other components apart from the growth of the money volume, which influence the increase of the consumer prices.



Picture 3: Relation between the average annual rate of growth of central bank money supply and the index of the consumer's prices in selected countries from 1966 until 1991.

1) Estimated regression line: $Y = 0,9878 X - 0,0876$. $R^2 = 0,9401$

2) Estimated regression line without Argentina,

Brazil Chile, Mexico und Indonesia: $Y = 0,6113 X + 0,2628$. $R^2 = 0,5675$

1 United States	7 Italia	13 Indonesia
2 Canada	8 Spain	14 Pakistan
3 Australia	9 Switzerland	15 Mexico
4 Japan	10 United Kingdom	16 Brazil
5 France	11 Nigeria	17 Argentina
6 German Federal Republic	12 India	18 Chile

Source: IFS Yearbook 1995, lines 14, 34, 64 und 99a.

2. The exchange equation

The exchange equation is:

$$(1) \quad M \cdot V = P \cdot X$$

Whereby M = Money volume, V = Velocity of circulation, P = Vector of the prices of goods $i = 1 \dots n$, X = vector of the amounts of goods $i = 1 \dots n$ and $i = 1 \dots n$ = all traded goods. The main thought of the quantity theory is that the every turnover mentioned on the right side of the equation takes a certain amount of time (preparation and transaction) and so binds an amount of money proportional to the turnovers of goods for a certain amount of time. Financial transactions whose realisation binds money for a certain time have to be in a fix relation to the turnover of goods for the theory to be true. As well, credits of suppliers, with which turnovers are made without that money is used, have to be in a fix relation to the turnovers. The same is valid for clearings, which don't bind money. Assuming finally that there is a fixed relation between the payment of wages and the gross domestic product (GDP), you can put the nominal domestic product Y_n instead of the product $P \cdot X$. If you put V on the right side of the equation, it takes on the following form:

$$(2) \quad M = 1/V \cdot Y_n$$

The quantity theory assumes that the velocity of circulation is constant. In relation with equation 2, this fact is formulated as such, that economic subjects want to hold a constant percentage of their nominal income in cash (money demand function). The numeric value V in equation 2 is different from the one in equation 1. You call V in equation 2, the income-velocity of money or $1/V$ as Cash balances coefficient. Asking for determinants of velocity of circulation, your attention is directed to institutional factors as for example:

- Habits of payment (cash, cheques, overdraw possibilities);
- The regularity of payments as well as their predictability (irregularity and unpredictability of Payments cause higher cash balance)
- The length of periods of wage payment (at weekly periods , the cash balance is lower than at monthly periods)
- The synchronicity of in- and outputs (the more synchronous the in- and out puts are, the lower is the cash balance).

Asking on the other hand for determinants of the Cash balances coefficient, the attention is put more on the factors for the money holdings of an individual. Thinking this concept consequently further leads to the theory of demand for money. Two methods of proceeding can be used for empirical tests:

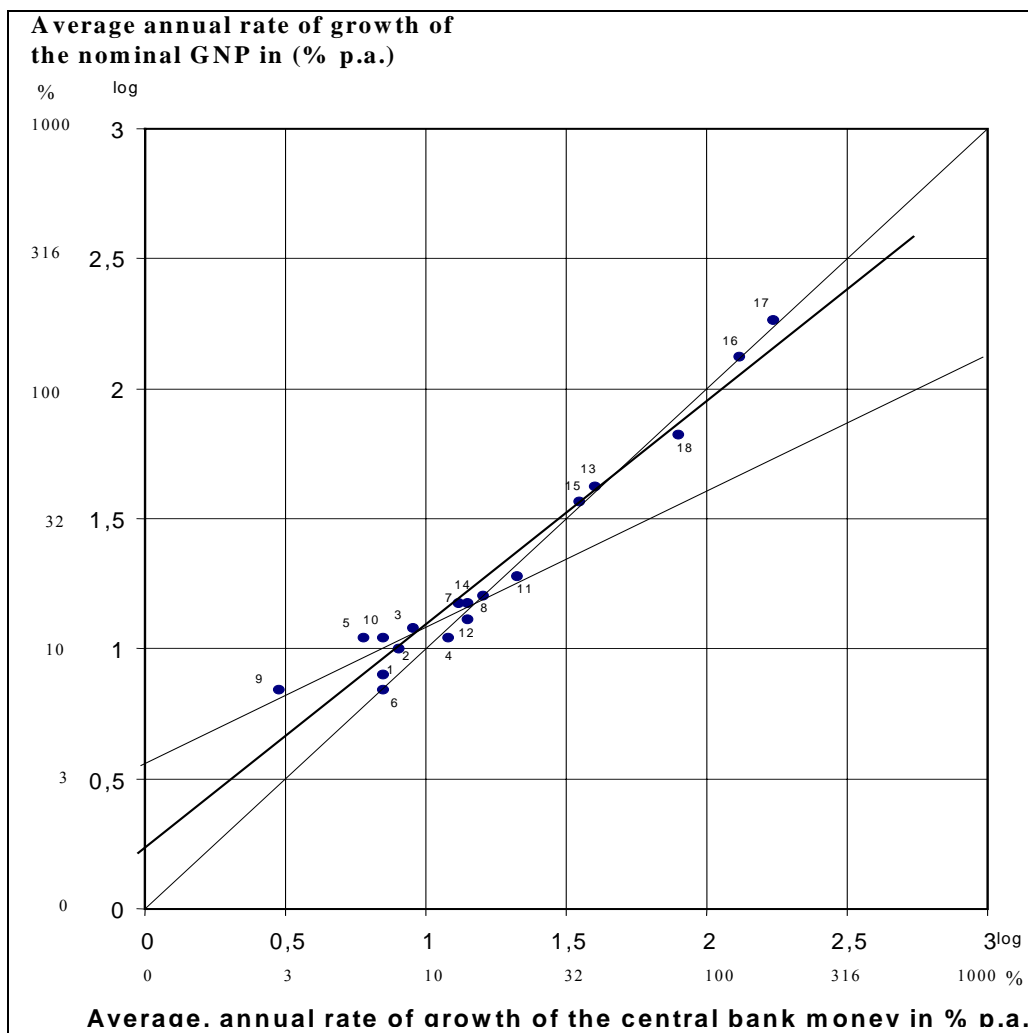
You can put the growth rates of the nominal domestic product and the one of the money volume in relation to each other.

You can put the nominal social product and the money volume directly into relation with each other.

In Picture 4, the annual, average rate of growth of the nominal social product and the one of the central bank money in selected countries in the period between 1966 and 1991 are compared to each other. The methodical problems and the selection of countries were discussed in the previous chapter. Would the quantity theory be true in the form that the velocity of circulation is constant, or that the economic subjects wish to keep a constant percentage of their gross social product in money, all points in the picture 4 should lie on the 45°-line.

On the 45- line are laying points of the GFR, Pakistan, and Brazil and very near to it are the United States, Indonesia, Mexico, Spain, India and Spain. By selecting the money aggregate M1 instead of the supplies of the central bank, the points would be in some cases a little bit more further away from the line and in some cases a little bit more near. Also in Picture 4, the 45-line cannot be interpreted as the line of regression, because many points are lying left from the line. This can be attributed to the fact, that the velocity of circulation increased between the years from 1961-1991 in many important countries, compare as well Working sheets 17-20 and Picture 5. Nevertheless the close relation between the two quantities is evident. The exceptions are Canada, Australia, France, the United Kingdom and Switzerland. The points for France moves more near to the line by selecting money aggregate M1. In the United States, the development of an increasing velocity of circulation between 1950 and 1980 is opposed to the development between 1920 and 1946⁸⁴, when the velocity of circulation decreased. Even though the hypothesis of a constant velocity of circulation is clearly disproved, it is obvious on the other hand, that a strong relation exists between the rate of growth of the central bank money and the one of the nominal gross national product.

⁸⁴ Friedman, Milton; Schwartz, Anna: A monetary History of the United States 1860 – 1960, p. 640.



Picture 4: Relation between the average, annual rate of growth of the central bank money and the gross domestic product (GDP) in selected countries between 1966 and 1991

1) Estimated regression line: $Y = 0,8591 X + 0,2337$. $R^2 = 0,9532$

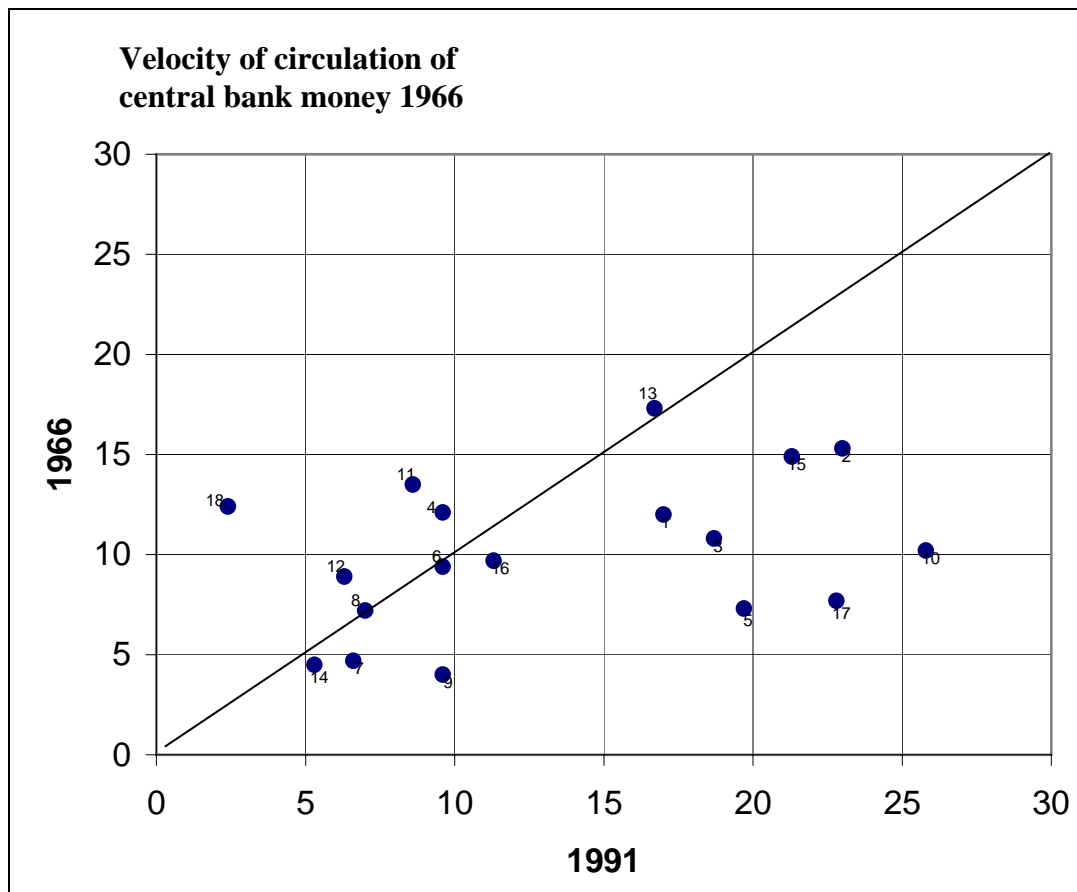
2) Estimated regression line without Argentina,

Brazil, Chile, Mexico und Indonesia: $Y = 0,5251 X + 0,546$. $R^2 = 0,5675$

- | | | |
|---------------------------|-------------------|--------------|
| 1 United States | 7 Italia | 13 Indonesia |
| 2 Canada | 8 Spain | 14 Pakistan |
| 3 Australia | 9 Switzerland | 15 Mexico |
| 4 Japan | 10 United Kingdom | 16 Brazil |
| 5 France | 11 Nigeria | 17 Argentina |
| 6 German Federal Republic | 12 India | 18 Chile |

Source: IFS Yearbook 1995, lines 14, 34, 64 and 99a.

In the picture 5, changes of the velocities of circulation in different countries are compared in the period of time between 1966 and 1991. For countries in which the velocity of circulation was in 1966 as high as in 1991, the points are lying on the 45⁰-line. Has the velocity of circulation decreased, the points are lying left from the 45⁰-line, has it increased, the points are lying right from of the 45⁰-line. Assuming that the institutional conditions in the individual countries are such that one of the money aggregates fulfils its social function in the same way in all the countries the points should be close together. This is obviously not the case. A increasing velocity of circulation could be a sign for a highly developed financial sector, a diminishing velocity of circulation a sign of a poorly developed financial sector. However the velocity of circulation increased more in Argentina than in GFR and USA, which doesn't fit to the assumption that the standard of development of the financial sector determines velocity alone, but rather is a sign of high rates of inflation. Referring to the development of the velocities of circulation, you would expect an increase most likely in countries with high rates of inflation. Indeed, general statements are hard to make.



Velocity of circulation of central bank money 1991

- | | | |
|---------------------------|-------------------|--------------|
| 1 United States | 7 Italia | 13 Indonesia |
| 2 Canada | 8 Spain | 14 Pakistan |
| 3 Australia | 9 Switzerland | 15 Mexico |
| 4 Japan | 10 United Kingdom | 16 Brazil |
| 5 France | 11 Nigeria | 17 Argentina |
| 6 German Federal Republic | 12 India | 18 Chile |

Source: IFS Yearbook 1995, lines 14, 34, 64 und 99a.

Picture 5: Change in the velocity of circulation of central bank money in selected countries between 1966 and 1991

III. Inflation: what is it, which effects has it and why are so many people against inflation?

A. What is inflation

Inflation is the decrease of the value of money. The value of money is the goods that you can purchase with money. As you can purchase with money many different

goods, the value of money is measured by the reciprocal value of an price index. As for the measurement of inflation, different price indexes of can be used, inflation can not be a clear term, for example:

- the cost of living price index
- the price index of gross national product
- the price index of raw materials
- the price index of producer's price
- the price index of retail prices.

Nevertheless, often these indexes move in the same direction for nearly equal amounts.

It is assumed that the increase in price is caused by inflation of the money circulating. Are increases of price not caused by inflation, but by bad harvests or similar you talk of a rise in price because of increased scarcity instead of inflation.

B. Effects of inflation

1. Inflation as a taxation of cash owners

At first, inflation works as a tax on money. During the tax system of Bracteates which existed in East- and Middle Europe during the 12th and 13th century, 9 new Pfennig of the same weight and the same content of refined metal, were issued for 12 old ones in the course of a defame of coins. Defame of coins means that you were not allowed to use old money any longer. Instead, you must use new coined money. This meant a money tax of 25%, the new coins having a constant content of metal. As long as the prices remained constant, it meant a decrease of the purchasing power of 25%. You could only purchase a basket of goods at the value of 75 Marks if you could purchase a basket of goods of 100 Marks before the defame of coins, that is $\frac{3}{4}$ of the original basket of goods. In modern times, the down stamping of notes existed only in emergency situations as for example in 1920 or 1945 in Hungary. The action of down stamping notes was taken because the government had no other possibility to obtain money. Are all 100 Roubles bank notes stamped to 50 Roubles, the government keeps back 50 Roubles for every 100 Roubles handed in. The down stamping of notes allowed to print new money in the amount of the money destroyed

and to use it for expenditures, without the money volume to increased by this. A hyperinflation preceded in both cases the down stamping of notes in Hungary. Inflation by issuing new paper money is very similar to down stamping of notes. Is the money volume doubled, and the money brought into circulation by expenses of the government, the prices are very likely to rise. At a strict validity of the quantity theory and the doubling of the money volume, the prices are rising to the double at a constant domestic product and velocity of circulation. The relation between the rate of the tax on money at down stamping of notes and the corresponding increase of money is:

$$1/(1-T) = M_2/M_1 \text{ or } T = 1 - M_1/M_2 \text{ whereby}$$

T is the tax rate of the tax on cash

M₁ is the Money volume before the money supply expansion

M₂ is the money volume after the money supply expansion.

2. Inflation as a redistribution from creditor to debtor

Contrary to a defame of coins or to the taxation of cash owners, an unexpected inflation influences the relation from creditor to debtor as such, as the expectations at the conclusion of a contract are disappointed. At an unexpected inflation, the creditor states a loss, the debtor a profit, contrary to their original expectations. If creditors and debtors assume a constant monetary value during the maturity period of a credit, you can say, that inflation damages the creditor and favours the debtor.

For the creditor's class, inflation is something negative, but for the debtor's class it is something positive. Knowing, that most people are savers - the average normal citizen owns a savings account with a bank, and the debtors are normally rich people, because they are the only ones, who get credit, it results that inflation redistributes wealth in from the poor to the rich, if the inflation was not foreseen. Also credit transactions are disturbed and by the non-conclusion of credit contracts, the wealth of a society is generally decreased. The conclusion of credit transactions is disturbed because of two reasons:

1. By the change from lower to higher rates of inflation, an expectation is raised in the public that the inflation keeps rising, because the expectation of the public orients itself mostly in the direct past. Thereby, not only the actual

existing rate of inflation is compensated for in the interest rate, but also the expected higher rate of inflation. That leads

- a.) either to a stabilisation crisis, if it doesn't come to a further increase of the rate of inflation or
- b.) to a permanent increase of the rate of inflation.

A permanent increase of the rate of inflation leads finally

- 2. to the non-conclusion of credit contracts.

Excursus: index clauses

Contrary to owners of cash, owners of money claims can protect themselves against a devaluation of money. They can

- set higher corresponding interest rates or
- put an index clause into the contract.

By a higher interest at inflation compared to a situation of stability of the value of money, you can protect yourself, only if the rate of inflation is anticipated correctly which in practice is the case if it is constant. Against a change in the rate of inflation, you can protect yourself only by index clauses. An index clause has the following content:

“The amount of repayment and the interest of the bonds in the nominal value of 100 DM are increasing to the

- (1) amount originally mentioned in the contract multiplied with
- (2) level of the cost of living index for a four-person household at the moment of repayment or of the payment of interest divided by
- (3) the level of this index at the moment of the credit granting.”

The adjustment factor (AF) for the capital and interests is

$$AF = p_t * q_0 / p_0 * q_0 \text{ whereby}$$

p_0 and p_t = Vector of prices at the point of time t respectively 0 and

q_0 = Vector of amounts of goods at the point of time 0 .

In the GFR (German Federal Republic) index clauses only were allowed by the Currency Act with authorisation of the Deutsche Bundesbank, for example for long-term debt relations with a maturity of more than 10 years, such as rental contracts. Now with the ECB the practice is more liberal.

The debts are permanently increasing as long as the interests are added to the sum of debt, and are not paid currently. That's why debtors have to carry an unsupportable burden, according to the national socialistic, economic ideologist Feder. You can object to this opinion the following:

At first interests can be paid instead of letting them accumulate and in the second place, a debtor can decrease his burden of debt by creating an excess of income over expenditure, and so decrease his debts.

A trick question is asked: How much money a person would have, who lend 1 € at the birth of Jesus Christ, and, at a rate of interest of 4%, again saved all the interests?

$1 \text{ €} * 1,04^{2005} = 1,42 * 10^{34} \text{ €}$. One gram of gold cost 11 € at December 2004

$1,42 * 10^{34} / 11 \text{ €} / \text{g of gold} = 1,29 * 10^{33}$. This would be about the weight of the sun in gold. $2 * 10^{33}$ gram is namely the weight of the sun or 333.000 times the weight of the earth. This should demonstrate the absurdity of an economy based on interests. It is plead for interest-free credits or for a periodical cancellation of debts (Seisachtheia). Inflation is for the defenders of the formerly described opinion a necessary corrective for the "interest slavery" of the debtor. This opinion neglects though, that every economic subject has the possibility (1) to pay interests, (2) to create an excess of money income after a period of an excess of expenditure, for example. You might make debts in the time of your education and later repay them in the period of income. Apart from this, (3) indebtedness finds its boundary in the creditworthiness of the debtor. Who as a creditor allows interests to accumulate, has to expect the debtor to declare insolvency.

3. Inflation changes the taxes in terms of real value

At a continuing devaluation of money, the following problems occur:

1. The value of taxes decreases in real terms if the dimensions are physical qualities (for instance pieces, litres, gallons), as for example the tax on mineral oil or the tax on cigarettes.

2. The value of taxes whose dimensions are amounts of currency remains the same in real terms.
3. The value of taxes whose dimensions are currency amounts and which are progressive, for example the income tax in the USA or Germany, increases in real terms. So, the income tax rises because of the Progression of the income tax scale as well, when only rises in income at the amount of the rate of inflation occur and the real income remains constant. (So called cold progression of income tax)

Economic subject, whose profits are determined by comparing the money value of their assets, have to pay taxes for the increase in assets. This is valid as well if the profits result only from inflation. For example: An enterprise accumulates the counter value of the depreciations of its machinery. With inflation to buy new machinery, the enterprise has to accumulate more money than the counter value of the depreciations, if it wants to buy new machinery when the old one has worn out. The amount of money exceeding the counter value of the depreciations is subject to taxes.

4. Unintentional legal effects of inflation

It results, that at inflation, the competence of the parliament to fix the budget can be annulated or the principle, that law can only tax a citizen can be rescinded. These are serious constitutional amendments.

Besides, all acts, whose legal effects are bound on a certain amount of money, are changed in their content. You should think of:

- free allowance of an seizure of property (to the disadvantage of the debtor under a levy of execution)
- limits for liabilities for risks of owners of motor vehicles, air crafts, railway companies, nuclear power stations and others (to the disadvantage of the victim)
- the amount of admitted businesses between the Deutsche Bundesbank and the government: here existed (before the treaty on the European Union) a limit for the granting of credits of the Deutsche Bundesbank to “public administrations”. Deutsche Bundesbank was allowed to grant credit to the

Federal Government (Bund) in form of book credits and of credits based on the purchase of Treasury bills) up to 6 Billiards (§ 20 BBkG); here to the disadvantage of the Federal Government (Bund).

- Limits for contributions to the social insurance are decreasing in real terms, what releases better earners from the liability to contribute to the social security
- If in certain laws, small amounts of money were taken out of the regulations of the law because of their petty character, inflation leads to the increasing registration of these petty violations and so to a stronger bureaucratisation.
- Fines are losing their character of punishment
- The minimum initial capital stock to found a private or public company is becoming smaller in real terms.

You cannot renounce to the fixation of maximum or minimum values, for example to indicate a minimum limitation for custom tariffs. It's impossible to switch to concrete denominations of amounts, because every kind of goods would have to be named separately and at the appearance of newer goods, these would be hindered again. The function of money as a measurement of economic quantities is irreplaceable in the wording of legal rules.

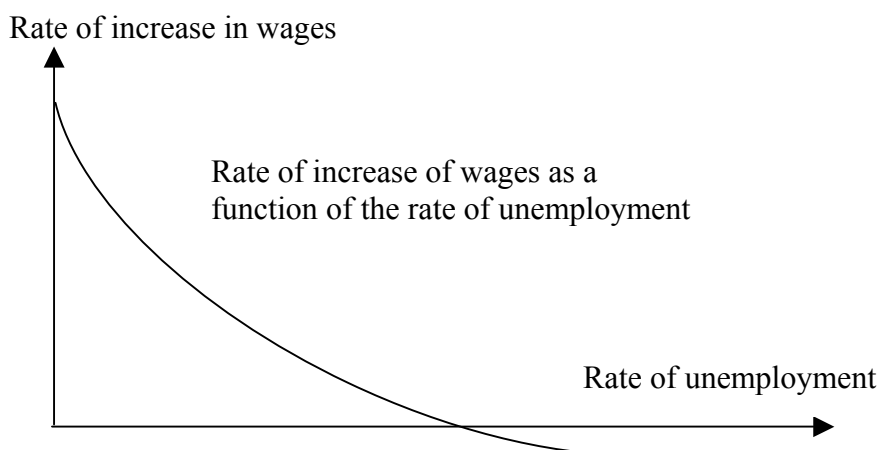
5. At inflations, not all of the prices are changing synchronically - the Phillips curve

At inflationary processes, you can observe at certain moments:

- that wages remain behind prices and
- a lowering of the real rate of interest (Fisher's equation: $i_n = i_r + \pi$, therefore $i_n < i_r + \pi$).

Are the increases in wages agreed at the beginning of a period smaller than inflation rates during a period, it means a decrease of real wages. Such a decrease of real wages has positive effects on employment. As it promotes in certain circumstances employment, inflation is sometimes valued positively. The relation between the rate of increase of wages and the rate of unemployment is called Phillips curve. Phillips was following the relation between the change in rates in wages and unemployment

in England between 1861 and 1957: It existed a negative correlation between the rate of increase in wages and the amount of unemployment. It is very plausible that you cannot demand wage increases at high unemployment because the employer will substitute you by jobless person.



Picture 6: The Phillips curve

If you put the rate of increase in wages equal with the rate of inflation (cost push inflation) and change the causality, than inflation can lead to a promotion of employment. In the long run, this relation doesn't exist. The trade unions will consider a constant rate of inflation in their wage demands. If you want an increase of employment created by inflation, only a constant *increase* in the rate of inflation will create this effect. Still in the beginning of the seventies, Helmut Schmidt, than German Chancellor, said: "5% of inflation are better than 5% of unemployment". This sentence implies the possibility to reach more employment by inflating the currency. In the beginning of the eighties, a high rate of inflation existed together with a high rate of unemployment. The empirical results indicate, that the relation of the Phillips curve exists in the short run, but that the Phillips curve moves to the top after a while.

C. Why so many are against inflation?

1. Inflation is anti social, because
 - a. an increase of the rate of inflation signifies a devaluation of money claims, which are hold mainly by households (net creditors), while the rich and entrepreneurs and enterprises are often net debtors;
 - b. not all prices are increasing with the same speed. Real wages are rather decreasing.
2. Increasing rates of inflation cannot be increased anymore up from a certain point and the stabilisation or already the transition to constant rates of inflation leads to a stabilisation crisis.
3. False signals of scarcity: seemingly product prices are increasing, but remain the same in real terms.
4. Shift of competence to tax to other institutions.
5. The legal system becomes more and more complicated, respectively degenerates and leads so to a waste of resources.

IV. International transfer payments with selected examples

A. The French reparation payments to the German Reich 1871 - 1874

The peace of Frankfurt of May 10th 1871, RGBL. 1871, p. 223-237. According to article 7 of the act, France had to pay

2 milliards FF. until May 1st 1871

3 milliards FF until March 2d 1874,

and 5% interests from March 2d 1871.

Payments could be made in gold, silver, and notes of the BOE, of the Prussian Bank, of the Royal Banc of the Netherlands, of the National Banc of Belgium ad in

immediately payable bills of exchange of prime addresses. 1 Thaler was fixed 3 FF 75 (4/5 Mark = 1FF).

Why did the transfer happen without disturbances?

1. Political reasons

France was willing to pay as, according to the peace preliminaries of February 26th 1871 (RGBL: 1871. p. 215-222), the occupied territories should be left only after the payment has been made.

- at the payment of 500 millions FF., the departments right of the Seine, Somme; Oise;

- at the payment of 2 milliards FF, The departments Marne, Ardennes Meurthe and Haute and Marne.

2. Ability to pay

Article V of the treaty of February 26th 1871 doesn't touch private property, especially private assets abroad.

Article II of the Peace of Frankfurt Secures the mutual most-favoured nation treatment

in foreign trade.

3. Payment were carried out over London

Transition of Germany to a gold currency facilitated the raising of the money for France, as the silver rate was decreasing.

Raise 4.2 milliards in bills of exchange

Of this 2.5 in Thaler

German money 105 millions FF

French gold 273 millions FF

French silver 239 millions FF

French bank notes 125 millions FF

East Railway 325 millions FF

France is taking two loans to raise the money.

B. The German reparation payments to the Allied and Associated powers during 1918-1931

1. Important stages

1. Acts over the peace between Germany and the allies and associated powers of July 30th 1919 (RGBl. 1919 (NR.140) of August 12th 1919, p.687-1349 (Treaty of Versailles) signed in Versailles at August 30th, p.289-385
2. Acts over the Conference of London of August 1924. RGBl. II 1924 (NR.32) of August 30th 1924, p. 289-385 (Dawes agreement)
3. Acts over the Conference of Haag at March 13th 1930 besides acts concerning the change in acts over the Reich Bank, the Reichsbahn and the German-American Debt Agreement and the declaration of the experts plan of June 7th 1929 RGBl. II of March 19th 1930, p.39-537 (Young-Plan) (signed at June 7th 1929)
4. Conference of Lausanne of 1932 (as a result of the Hoover-Moratorium of 1931)
5. Acts concerning the agreement of February 27th 1953 about German debt abroad. BGBl: 1953, II S.33-514 (London Debt Agreement)

2. The Treaty of Versailles (TV)

Negotiated by: Orlando, Clemenceau, Lloyd George and Wilson.

Germany obliged itself to cover all damages and losses, which Germany and its alliance caused to the allies in the course of the war. Amount of the payment and the way of paying it remained undetermined and should have been set by the Reparation Commission: It had to have extensive sovereign powers, and administrated Germany like insolvent assets in the interest of the creditors. (America left; Presidency went to France). At first bearer bonds over 100 billion Mark had to be handed over. Besides non-financial services had to be produced. Only since 1921 there was a Commission to estimate prices of delivered goods, in which Germans participated. In 1920, in Bologna and Spa 226 billion Gold Mark were claimed, which was refused by Germany. As a result, the French occupied Düsseldorf, Duisburg and Ruhrort at March 8th 1921: France put an embargo on the tariffs of the West border. England

promulgated the German Reparation Recovery Act, by which 50% (later 26%) of the value of the German exports to England were kept for reparation.

According to Article 235 Germany should have paid 20 billion Mark until 1921. According to the Reparation Commission, only 8 billion DM were paid, according to Germany a lot more. The Reparation Commission numbered the claims to Germany of about 132 billion Mark. Every year 2 billion Mark should be paid and a charge of 26% of the export. Poincarre (France) occupied the Ruhrgebiet at January 11th 1923, because wood and coal deliveries were missing (Anl. 5 §2VV: Germany delivers to France of seven million tons of coal every year for 10 years) (Extraction in 1972 110 million t).

3. The Dawes Plan

1924 Ruhr area is becoming German again (1/4 of the industrial workers); pay rate policy is under foreign control, if a delay in payment occurs.

An annuity of 2.5 billion Gold Mark with uncertain maturity is fixed.

The annuity should increase, if Germany was doing well. (Wealth index)

The wealth index contains, beside other things, the international trade, public household volume, volume of production of the railway, consumption of sugar, tobacco, beer, spirits, coal consumption per head.

Social Product in 1925: 54 Billion Reich Mark

1929: 69-72 Billion Reich Mark

Reparation/ Public Income: 2.5: 54=4.6 %

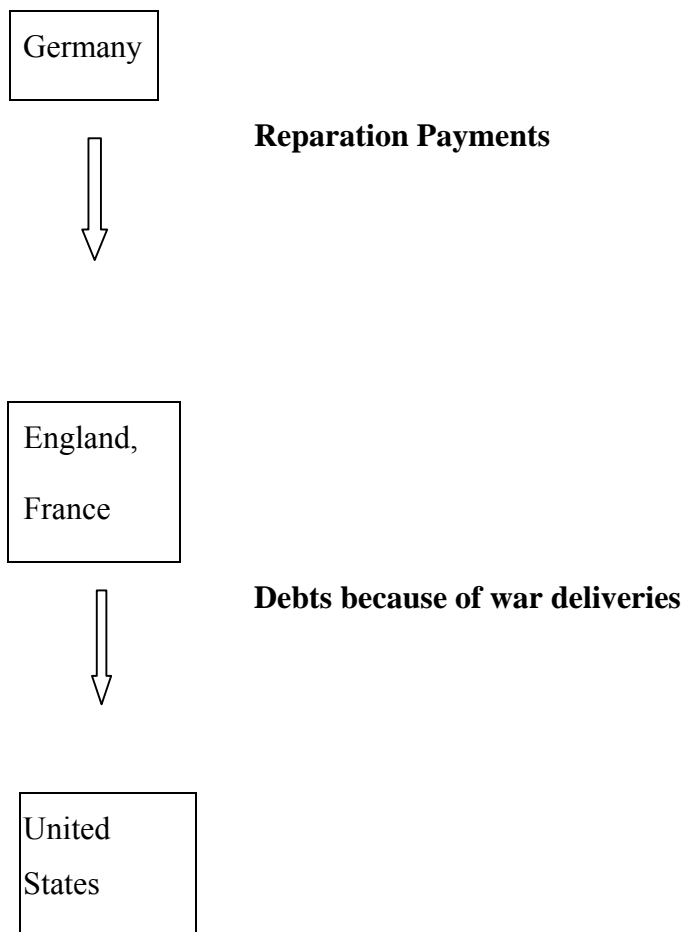
4. The Young Plan

It brought the final retreat of the Rhineland, cancellation of the wealth index, more independence for the Reich Bank. The annuity was reduced compared to the Dawes Plan from 2.5 billion Gold Mark. From 1.7 billion RM in 1930 the annuity should increase up to 2 billion RM until 1939, until 1966 to approximately 2.4 billion RM. Since 1967 a decrease to at first 1.6 billion RM and finally to 0.9 billion RM was

planned for the year 1987/88. Introduction of a transfer - and raising protection. In fact, reparations were paid until 1931.

5. Conference of Lausanne of 1932 (as a result of the Hoover agreement of 1931)

To fight the big World Economic Crisis, the American President Hoover declared a moratorium (temporary suspension of debt payments). He could do that, as England and France owed money to the United States for war deliveries during the German War:



Even though the United States didn't claim reparation payments, they were the ultimate creditors of the reparation debts: England and France wanted to recover from the war debts through Germany. The United States gave time to pay the debts to England and France, as a countermove they gave Germany time to pay its debts to.

The Conference of Lausanne recommended the suspension of the reparation payments, and to write down the condition of the Hoover Moratorium: Even though the results of the Conference of Lausanne were not ratified by any of the countries, they became reality.

6. The London Debt Agreement

After the World War II, it was agreed on that a settlement of the reparation payments of World War I was postponed until the conclusion of the peace treaty with the total of Germany.

7. Why did the transfer not happen smoothly?

- a. The reparation debt was only limited in 1930. Until then it was a declared goal to get as much as possible out of Germany: The more Germany would have paid, the higher the reparation claims would have become. (Wealth Index). Result: Complete lack of a will to pay on the debtor's side.
- b. Occupation of the Ruhr area was a re-opening of war
- c. Keynes 1919: Carthaginian Peace impossible in the 20th century. Social powers would arise, which would destroy the old European order.

The collected writings of John Maynard Keynes, Vol. II: The economic consequences of the Peace, ed. 1971, p.23:

“My purpose in this book is to show that the Carthaginian Peace is not practically right or possible. Although the school of thought from which it springs is aware of the economic factor, it overlooks, nevertheless, the deeper economic tendencies, which are to govern the future. The clock cannot be set back. You cannot restore Central Europe to 1870 without setting up such strains in the European structure and letting loose such human and spiritual forces as, pushing beyond frontiers and races, will overwhelm not only you and your “Guarantees”, but your institutions, and the existing order of your society.”

And page 170:

“If we aim deliberately at the impoverishment of Central Europe, vengeance, I dare predict, will not limp. Nothing can then delay for very long that final civil war between forces of reaction and the despairing convulsions of revolution, before which the horrors of the late German War will fade into nothing, and which will destroy, whoever is victor, the civilisation and the progress of our generation.”

- d. Lack of the ability to pay: German assets abroad were confiscated, German Recovery Act; tariffs for German Goods, occupation of the Ruhr, private financial assets were destroyed by inflation.
- e. Financial: The transfer protection and the tariffs stopped the forces, which enabled a real transfer.
- f. Treaties were too complicated and were full of mistrust: almost 1400 pages.

C. The assistance of the United States for the European and Asiatic countries between 1948 and 1952 (Marshall Plan)

In May/June 1947 Dean Acheson and George C. Marshall announced the Marshall Plan. Condition of the Marshall Plan was the will of the United States to impede the spread of Communism in Europe. Financial and non-financial services of the United States should have forced the co-operation of the European states. Therefore, the Soviet minister for Foreign Affairs Molotov called the plan an intervention into the inner affairs of the European states (Dollar Imperialism).

1. From July 12th until July 22nd 1947 the Conference of Paris took place, where the Committee for European Economic Cooperation was founded.
2. At April 3rd 1948 the United States adopt the Foreign Assistance Act.

The Marshall Plan Assistance was carried out as follows:

- (1) The Economic Cooperation Administration (ECA) was founded with direct responsibility towards the President of the United States
- (2) At April 16th 1948 the Organisation for European Economic Cooperation (OEEC) was founded. The petition of means was made by:
Federal States (Länder) →OEEC→ECA
- (3) In Germany, for the GARIOA (Government Aid and Relief in Occupied Areas) and for the Marshall Plan Fond, counter part funds were created, which were later administrated by the Reconstruction Loan Company (Kreditanstalt für Wiederaufbau - KfW).

Authorised funds for assistance abroad 1948: 5 billion US-\$

Total aid between 1948-1952: 13.15 billion US-\$⁸⁵

Revenues of the United States: 34 billion US-\$\$; Gross National Product 1948: 259 billion US-\$.

With this, the assistance of the year 1948 was 15% of the public household or 1.93% of the Gross National Product. Compared to this, the norms of the United States destine for the development aid an amount of 0.7% of the GNP. The GFR uses at

⁸⁵ Price, Harry P. : The Marshall-Plan and its Meaning. Thaca 1955, p. 88

that moment approximately 0.35 % of the GNP for development aid. The assistance of the United States for Europe has, measured on the GNP, 5.5 times the volume of the development aid paid by the GFR today. The Marshall Plan Assistance allocated to Germany between 1948-52: 1.4 billion US-\$ or 5.8 billion DM (Exchange rate at that time: 4.20 DM/US-\$; to compare: the public household was 1951 20 billion DM). Gross performance in the frame of the ERP and the GAROIA programs until 1953: 3 billion US-\$. Of this 3 billion US-\$, one billion were given as a gift to Germany according to the Debt Agreement of London of 1953. One billion of this for the recognition of private debts abroad of the time before the war, one billion remained as a debt. The recognition of private debts abroad was the base for the credit worthiness of the GFR:

The transfer of the assistances happened without problems.

Willingness to pay was given: The United States paid by free will;

Ability to pay: The United States had the funds. Because the war hadn't to be financed any longer, no new taxes had to be levied on the people.

Financial: It was decisive that the Dollar was convertible and that you could purchase goods for it;

Use of the funds: The receiving countries were destroyed and suffered from hunger.

A. Determinants for the success of a political transfer

- The debtor has to be willing to pay; he has to pay by free will or to avoid a disadvantage. Transfer protection, Wealth Index and uncertainty of the amount to pay result in unwillingness to pay.
- The debtor has to be able to pay.
- There has to be a financial mechanism for the settlement.
- The raising of the funds has to be secured.
- The receiver of the funds has to be prepared to use them.
- The regulations have to be easy to understand.

Achievements of the United States to European and Asiatic Countries between 1948-1952

Year	ERP/MSA assistance ⁸⁶	Assistance abroad	Gross National Product (GNP) ⁸⁷	Household volume of the United States ⁸⁸	ERP/MSA in percent of the assistance abroad	ERP/MSA in percentage of the GNP	ERP-MSA in percent of the household volume	Assistance abroad in percentage of the GNP
	Billion \$	Billion \$	Billion \$	Billion \$				
(1)	(2)	(3)	(4)	(5)	(6) = (2)/(3)	(7) = (2)/(4)	(8) = (2)/(5)	(9) = (3)/(4)
1948	1.9	5.2	259	34	38	0.8	5.8	2.0
1949	4.0	5.6	258	40	73	1.6	10.1	2.2
1950	2.9	4.1	284	40	70	1.0	7.2	1.5
1951	2.8	4.6	329	45	60	0.8	6.2	1.4
1952	2.1	5.0	346	66	42	0.6	3.2	1.4

Abbreviations: ERP: European Recovery Program
MSA: Mutual Security Agency

V. Efforts for an international coordination in monetary matters and for an international monetary order

A. The bank for International Settlements (BIS)

Literature: 1. Schloss, Henry H.: The Bank for International settlements. Amsterdam 1958

1. Lautenbach, Wilhelm: Die BIZ. IN Magazin der Wirtschaft, Berlin 1929
2. Moulton, H: G.; Tasvolsky, L.: War debts and world prosperity. New York 1932

⁸⁶ Department of Commerce, Office of Business Economics: Quarterly Report. Foreign Aid by the United States Government. IN: U.S. Bureau of Census. Statistical Abstract of the United States 1953 Washington D.C. 1953, p. 886

⁸⁷ Department of Commerce, Office of Business Economics: Survey of Current Business. July 1952 and February 1953. In : Statistical Abstract of the United States 1953. Washington D.C. 1953, p. 279

⁸⁸ Bureau of Budget: Budget of the U.S. Government 1953. In: Statistical Abstract of the United States 1953. Washington D.C. 1953, p. 343

Past history:

1. 05.05.1921 Germany accepts reparations in the amount of 132 billions of Gold mark under the pressure of the treat of the occupation. Soon it proved impossible to pay; occupation of the Ruhr By France occurred
2. The Dawes plan fixes annuity in the amount of 2.5 billion of Reich mark without setting the total amount.
3. Young Plan 29/30 planned reparations until 1987/88.

Main task of the BIS: Commercialisation of the reparation debts: As the raising of the reparations by

1. Gold and foreign reserves

2. by exports

was not possible, only the possibility to take a loan in a foreign country remained.

Documents:

1. Convention between Belgium, France, United Kingdom, Italy, Japan, Germany on one hand and Switzerland on the other.
2. Charta of the bank; Central Banks of Germany, Belgium, France, United Kingdom, Japan, groups of banks of the United States
3. The statutes are incorporated into the conventions

Capital:

Originally 500 millions of Swiss Gold francs equivalent to 145 million gram of refined gold;

Today: 1.202 million Gfr., of this 25% paid in; =300 million Gfr.

Balance sheet total:

29 billions of Gfr. (march 31st 1972); 65 billions of Gfr. (march 31st 1995).

1 gold frank==. 2903228 g of refined gold

Rights to vote:

Only Central Banks

Stocks

Can be owned privately

Tasks:

1. Agent of the EWA
2. Trustee for
3. Dawes bonds of 1924
4. Young bonds
5. Holder of a pledge because of the profit of the pledge with the European Community for Coal and Steel (ECSC)
6. Agent of the Central banks: invests money for the Central Bank at the Euro-Dollar-market
7. Meeting point for the monthly meetings of the president of the Central Banks (Schloss, p. 91), have offices, arrive one day before the date of the meeting of the BIS.
8. Meeting point for Bank Supervisory Authorities (Basel I and II).

Reproach of collaboration: March 15th 1939 occupation of Czechoslovakia; at March 20th, the BIS carried out an order of the Czechoslovakian National Bank to credit with the Reichsbank gold deposits of the BIS for its bill in London; but BOE and the Banque de France were informed about it and didn't raise any objections. Germany paid interests in gold to the BIS during the war. Conference in Bretton Woods recommended the dissolution; the United States didn't take any further steps into this direction;

East European countries took part in the annual meetings.

B. Bilateralism, inner European Payments agreements EPU and EMA

1. Bilateralism: international payment transactions between the GFR and the GDR

Literatur: Jahn, Oswald : Handbuch des Interzonenzahlungsverkehrs. München und Berlin 1956.

Deutscher Wirtschaftsdienst KG, Köln. Redaktion: Edelgard Reichl: Interzonenhandel. Handbuch für die Praxis

Keynes said after the end of the Second World War (in IMF 1945-1965, p. 31) “There is no country which can, in future, safely allow the flight of its funds for political reasons or to evade domestic taxation of in anticipation of the owner turning refugee.”

After the Second World War existed approximately 200 bilateral Payments agreements, which's number was still increasing despite the efforts of the IMF up to 400⁸⁹ until 1954.

1. International Trade

1. Conclusion of a contract between a company in the GFR and one of the 30 international trade companies of then GDR (each one a monopoly company for one industrial branch).
2. Exports out of the GFR: request for good accompanying certificate together with a contract and payment authorisation of the partner in the GDR to one of the regional economic authorities..
3. Authorisation by the Federal Offices for Trade and Industry and for Nutrition
4. Export out of the GFR: Authorisation = Certificate accompanying goods to exporters and sending of the goods

Import out of the GDR; Receiving authorisation to importers, from him to GDR exporter; Sending of the goods

5. Export out of GFR: Importer in the GDR pays to the state bank, the latter pays to the Deutsche Bundesbank which pays to the bank of then exporter

⁸⁹ De Fries, Margret G.: The Retreat of Bilateralism, p.298/9. in: IMF 1945-1965 (II)

Imports out of the GDR: Payment of the importer to the bank, the latter to the Deutsche Bundesbank, which pays to the state bank of the GDR, the latter pays to exporters

2. Payment transactions

Only by Central Banks, no transfer of tenders, only clearing accounts over so called clearing units (CU)

Division: K1: List of goods 1 (hard) of the agreement of Berlin⁹⁰

K2: List of goods 2 (soft)

K3: Service transactions

S: Special businesses

- 2 can compensate 3;
- S is fed by the GDR out of incomes of motor way fees, minimum exchange and others (smuggle);
- Swings at first for every 100 Mio. CU for every sub account; since 1968 common swing for K1, 2 and 3; since 1968 25% of the payments received by the Bundesbank in the preceding year (1950: 380 millions of VE); At exceeding the debit note can be suspended. (Stop of the granting of certificates accompanying goods by the Federal Office for Trade and Industry= waiting room for firms willing to deliver)

Payments outside of the agreement of Berlin (1956)

1. General: Deposits into blocked accounts
2. Payments of alimony into blocked accounts; Impossibility of transfers (for east debtor liberating effect; for west debtor liberating effect, if east partner accepts this; settlement when partner from the other side was found).

⁹⁰ Revised Version of the Agreement of Berlin NR:32 of December 15th 1961

Support payments: until 300DM/Month direction west→east temporarily possible.

Use of West zone accounts in the GDR

1. Taxes, fees and others
3. Expenditures to maintain property
4. Support of relatives, if
 - a) Nearer relative
 - b) In necessity of support
 - c) Up to 200DM/month /1 person
Up to 300DM/month/ 2.person
5. Payment of alimony up to 200 DM
6. Costs for staying up to 15M/day
Children 7.50 M/day
7. Court costs, medical fees, hospital fees, insurances, funeral costs
8. Explicit authorisation of the Deutsche Notenbank (GDR)
DN

Use of East zone accounts in the GFR:

1. When staying in then GFR up to 100DM/month
2. Transfers to West Germans up to 150DM/month
3. a. Taxes
 - b. Insurances
 - c. Agreements under which a loan is granted by a saving and loan association
4. Transfer into other IMFs is possible
5. Acquisition of port-folio investments in the GFR
6. Acquisition of property

7. Everything can be credited a such a blocked account

Actually handing out DM to East Berliner was at first forbidden! (Article VIII act of foreign exchange control), then later it was allowed.

8. Blocking of in heritages.

2. Multilateral payments agreements

a. Historical development

Multilateral payments agreements are appearances of the time after the World War II. For such conventions to be useful, there have to exist restrictions of transfer in many countries. The IMF-system requires already a certain degree of convertibility and transferability, which was not given in the European countries after the Second World War.

The multilateral clearing agreements of the West European countries were the result of the work of the Committee of the European Cooperation. Already in November 1947 an agreement was made between the Benelux-States, France, Italy and the Bizonia Germany. From October 1948 until June 1949, the first European Payment Agreement (IEPA) was in force and from July 1949 until June 1950 the second one, which was identical to the first one in the essential parts. To the first and second IEPA belonged all the OEEC countries. Agent of this agreement was the BIS⁹¹. The second IEPA followed the European Payment Union (EPU); which according to the division used here, has already be considered a bank. The Realisation of the multilateral clearing agreements may be credited to the leading activity of the United States through the Economic Cooperation Administration (ECA), even though the convention would have been to the advantages of the European countries without the help of the United States.

In East Europe, Poland and USSR concluded a bilateral trade agreement in January 1948, which contained the transferability of accounts to third countries. In the years until 1957 existed in the RGW area several clearing agreements with changing participants. In 1957 the “Agreement of Multilateral Clearings between the member

⁹¹ Text of the Agreement in BIS: 18., 19, and 20. Annual Bulletin

countries of the RGW” was signed⁹². In 1964 the clearings by the “International Bank Mutual Cooperation Economic” replaced these clearings.⁹³

b) Types of multilateral payments agreements

(1) Criteria for classification

If you classify international payments agreements by their degree of transferability of arising claims, you can distinguish

1. Clearing agreements without an increase of bilateral balances
2. Clearing agreements with substitution of the debtor

This classification can be considered as classification by degree of liquidity or monetization of the claims arising out of international trade.

(2) Clearing without the increase of bilateral balances

The theory of multilateral payment agreements didn't find a lot of attention, as the period of multilateral payment agreements of this type already finished in the West countries in 1950 and in the RWG-countries, multilateral clearings were not important⁹⁴ because of the bilateralism of their trade relations. The condition of every multilateral clearing is that trade flows between countries can be expressed in a single calculation unit. That the unit, in which the deficit is expressed, has to stand in relation with reality is already condition for the development of bilateral balances.

The trade flows within a closed group of countries can be divided into the following components

1. The bilaterally settled trade flows
2. The bilateral surpluses or deficits

a) The circularly settled trade flows

b) Bilateral surpluses after successfully realised circular clearing

⁹² This agreement follows the West-European Clearing Agreements of the years between 1947 and 1950. According to Zwass (1974), p. 95.

⁹³ Compare to this paragraph for example Zwass (1974), p. 94 f., Steffens (1974), p. 80 f. and Lavelle (1973), p. 223.

⁹⁴ The theory of multilateral clearing is described by Ekker (1950), on whose exposition, the following presentation is based on. Tew picked up Ekker's description.

(3) Clearing without an increase of bilateral gross positions

It can be shown that the rate of flow becomes very small, when bilateral netting out does not do the circular clearing.

(4) Transaction of international trade in the system of the Council for mutual Economic Assistance

1. Price fixation

Calculation unit: transferable Rouble

Prices: world-market prices → translation by \$-parity of the transferable Rouble

- Official parities therefore without significance
- Differences to national prices carry the government
- Base years: 1949/50; (1954) corrections; 1956 (for 57/8); 1958 (1959-64); 1960-65 (since 65/66)
- World market prices are fixed by guidelines, the market, of which the RWG-countries want to purchase, is selected;
- Fiction is even spread to the costs of transport from this market (principle of opportunity costs);
- Goods, which are not available: offer from capitalistic countries; examination by west market-research institutes; seller had to furnish proof about the price on request of the purchaser; purchaser is authorised to counter documentation
- National cost prices only for services, which are not available on the world market
- Source: Votruba, nach Außenhandel (1965) H.5, p. 34

“Despite of all our however formulated reservations:

- Uniform world market prices do not exist
- Are destroyed as a result of the currency chaos in the West
- Deformed by monopolies and their fight

- Deformed by business fluctuations, which result out of capitalistic exploitation of under-developed countries

finally the existing, objective tendencies of labour productivity are expressed in them.”

Plans for international trade are made in two phases

1. Bilateral plans with balances
2. Multilateral trade negotiations to coordinate the balances (with clearing factor)

Effects: trade remained mainly bilateral;

1. Multilateral Trade and planning don't go together.

Use of capital requires an export surplus of the other country, but this requires again

- Decrease of imports: but these are planned already for years upfront or
- Increase of exports: restrictions of capacity.

3. “Deficit” goods, as prices of capitalistic markets are not reflecting exactly the internal scarcity, “hard” goods and “soft” goods are interchanged in specific proportions, therefore always tendency to bilateralism.

3. The European Payment Union (EPU) and the European Monetary Agreement (EMA)

These institutions, described now, are different from pure clearing agreements because claims of the creditors exist towards the bank, and not towards countries. By this the claims towards the debtor become generally more secure than when bilateral debt relations exist.

The security can be given by

1. The capital of the bank
2. Limited-liability of the members (according to the quota) = credit cooperatives with limited liability of members or

3. Full liability of the members = registered credit cooperatives with unlimited liability of members

a) Past history

- 1.) At first bilateral payment agreements

Source: 18. Annual bulletin of the BIS; 1945/46 approximately 200 agreements.

- 2.) May/June 47 Dean Acheson and George C. Marshall announces the Marshall Plan

- 3.) In Germany JEIJA (Joint Export and Import Administration) until October 5th 1949

- 4) Clearing agreement from November 18th 47 in the frame of the Committee for European Economic Cooperation (CEEC)

Compensation of first; and second category; second category optional

1. Clearing agreement October 1948-June 1949: Intra European Payments Agreement (IEPA)
2. Intra European Agreement 1949-June 1950: 25% of the quotas could be used multilateral

b) EPU

EPU: July 1st 1950 in force

A devaluation of August 19th of 26% from approximately 3.33 to 4.20 DM/US-\$ went ahead.

The EPU was founded by the initiation of the Economic Cooperation Administration (ECA). The United States put 350 million US-\$ as investment disposal, which gave a stimulation for collaboration. Parts of the Marshall Plan were granted under the condition that the countries became member of the EPU.

Important for the success were the following characteristics of construction:

1. Financial help of the United States;
2. Collective liability of all the members for the claims of the creditors;

3. Higher quotas of redemption in gold (US-\$) at an increasing indebtedness Under this agreement, the European States change to convertibility according to article VIII IMF Agreement of Trade and its trade was liberalised. The agreement existed until December 27th1958. Simultaneously the European Monetary Agreement came into force. (EMA).

c) European Currency agreement

1. Frame

Existed in the frame of the OECD (Organisation for Economic Cooperation and Development) (September 30th 1961), originated out of the OEEC (Organisation for European Economic Cooperation). European Organisations should have been reorganised to the Atlantic union.

European countries, United States, Canada, Japan (1964), Finland (1969)

2. Coming into force:

Put into force December 28th 1958

3. Content:

1. Foundation of a European Fond, which was administered by the BIS.
2. Capital approximately 6600 million clearing units;
3. Interests in gold (article 6);
4. Calculation unit: 0.88867088gr. of fine gold;
5. Credits and repayment of them;
 - a) According to article 7: Decisions taken by the organisation, all payments should be made in gold; maturity 3 years, in special cases 5 years.
 - b) According to article 10: Short-term currency support in the national currency of the creditor's country: some 260 million Dollar Germany for example could take a loan of 30 million US-\$\$; redemption in US-\$ at the end of an accounting period (article 12), be only as long as the United States were not changing their gold policies.
6. Organisation

- a) Council: Decision in unanimity (with the exception of members, which are absent and abstain);

Powers: Council gives instructions to the board of directors and to the BIS

- b) Board of directors

7. Ended at December 31st1972

4. Importance

Was of small practical importance as the countries could take loans on the free market in US-\$ without gold clause.

C. *International Monetary Fond (IMF)*

1. History

a) Foundation

1. Preparation in 1941/42; first version of the plans by Keynes and White
2. New version of the plans in spring 1943 (French men and Canadians)
3. September/October 1943: Keynes and White negotiate in Washington; April 1944 “joint venture”;
4. Meeting of specialists (16 countries in June 1944 in Atlantic City;
5. Conference of Bretton Woods: July 1st 1944; 44 countries sat until July 22nd 1944

Soviet Union took part in the negotiations, but didn't ratify the agreement and made the countries belonging to the eastern block, which had already become member, leave it again.

All countries newly founded after the World War II entered the International Monetary Fond; April 1983: 148 members.

During the last years, also the former RGW-states entered the IMF: Initially only the US-\$ was freely convertible. Until 1971, every currency maintained fixed exchange rates towards the Dollar. August 15th 1971, the American President declared that the

US-\$ in the hand of foreign Central Banks was from then on not exchangeable anymore into gold. It came to the so-called “realignment” of on exchange rates in December 1971: In February 1973, they finally passed to flexible exchange rates.

2. Exchange rate system and special position of the United States

Characteristics of construction were until 1971:

1. Every country fixed parities of its currency towards the US-\$;
2. The United State agreed to the Central Banks of other countries to always exchange Dollar in the hands of Central Banks at the parity 1 Dollar = 0,888671g of Gold;
3. Every country obliged itself to deal in foreign exchange only on the base of the parity.
4. 35US-\$/ounce of gold (31.10348g/Ounce): US declared to convert US-\$ holdings in the hands of other governments into gold.

“The maximum-and minimum exchange rates for foreign exchange transactions between members made within their territory are not allowed to differ from the parity

- i) in case of spot trading by more than 1% (0.75%) and
- ii) in the case of other foreign exchange trading at a margin considered adequate by the Fond and exceeding the spread of spot trading.

5. Obligations for the monetary stability;

b) ”Every member obliges itself, by appropriate means to allow in the frame of this agreement within its territory, foreign exchange trading between its country and other currencies only within the boundaries of the acts imposed in paragraph 3 of this article. A member, whose monetary authorities freely purchase and sell gold for the handling of international transactions within the limits imposed by paragraph 2 of this article, is considered fulfilling the obligation according to this regulation.”

With this all countries had a fixed parity towards the Dollar and the Dollar again had a fixed parity towards gold. As long as the individual countries didn't maintain

controls of foreign exchange, but really sold and bought Dollars at a fixed rate, all currencies were anchored in the gold.

With the so called “realignment” of December 1971 (Smithsonian-Agreement), all countries should maintain fixed parities towards the Dollar without that it was itself exchangeable into gold. This system proved it to be unbearable, as every country with the exception of the United States was subject to monetary discipline. The United States itself didn't have to submit itself to this discipline. All European states accumulated considerable amounts of US-\$.

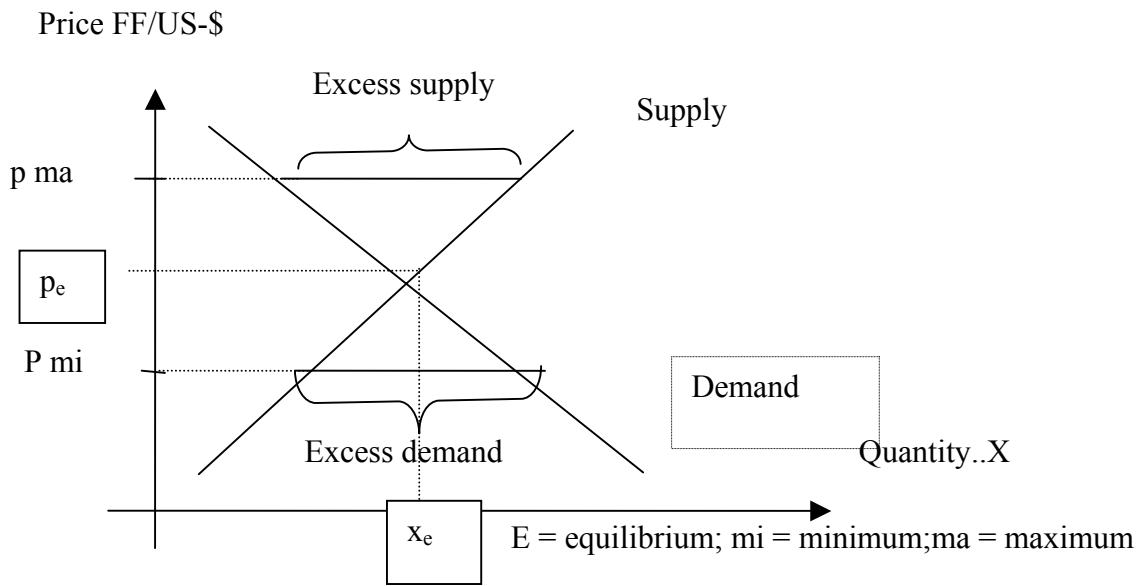
Since 1973 the transition of flexible exchange rates took place, which was opposed to the agreements of the IMF, but the IMF survived this event. The most important of its goals according to my opinion, which are written down in article 1, goes as follows: ”To take part in the establishment of a multilateral, monetary system for current business relations between members and at the elimination of exchange restrictions, which hinder the growth of the world economy.”

With this, the claim of convertibility of currencies is one of the major goals of the IMF, which it still strives for. In principle, every country had two possibilities to guarantee that within its territory foreign exchange was only dealt at a certain rate:

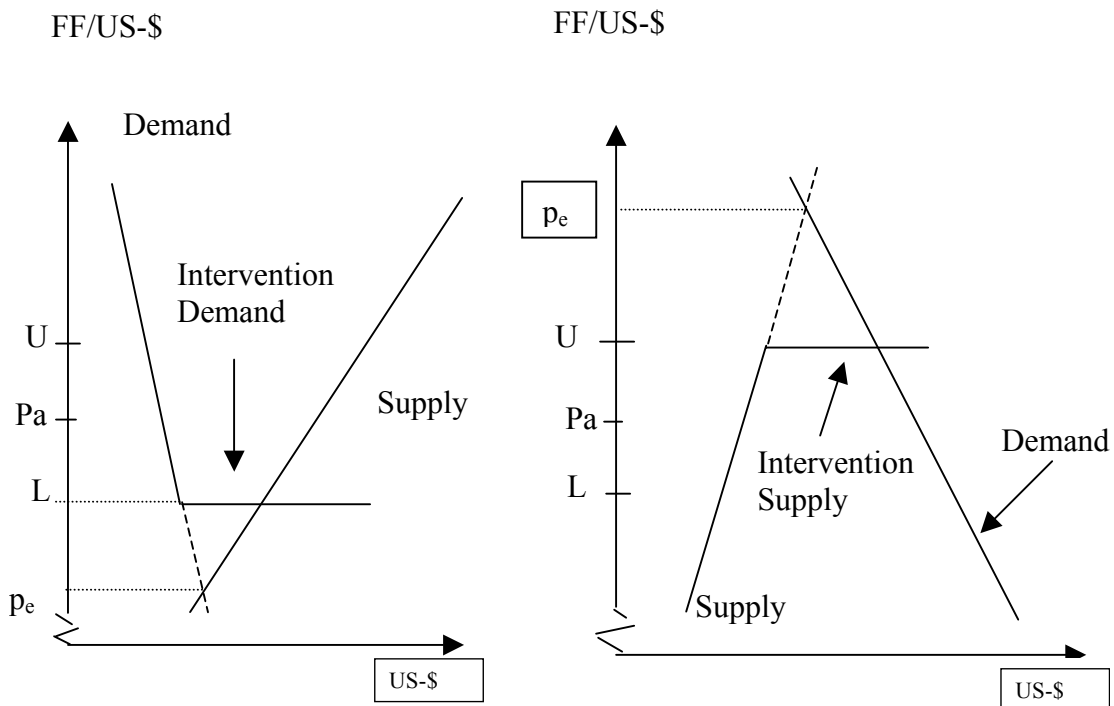
1) Influence exerted on prices by price fixation.

This form leads at one hand to

- excess of demand, bureaucracy, allocation of foreign exchange, obligations to hand in foreign currency and similar and to
- strict border controls and finally to restrictions of liberalness.



2) Influence on prices exerted by market interventions



U = upper limit;
 Pa = parity;
 L = lower limit;
 p_e = price if there were no interventions

3. Ways of functioning

A fixed rate system produces at (asymmetric interventions) anti-inflationary effects, because money created by the Central Bank which the public doesn't want to hold, is exchanged into foreign currency. As the Central Bank is obliged to deliver foreign exchange for its own currency if the price of foreign exchange reaches the upper point of intervention a return of the domestic money to the Central Bank always happens. This again leads to an according decrease of the Central Bank money. For the United States was valid that an excessive extension of the national money volume led to a flow-out of gold. The Central Banks are forced to intervene to stop the flow-out of foreign exchange or of gold. The most appropriate and market conform means to reach this is the rise of the discount rate. This would make it more attractive for foreigners to invest their money in the domestic currency and to demand domestic currency. At the same time, it becomes more expensive for domestic economic subjects to take loans with the Central Bank and by this procure Central Bank money. By this the Central Bank money can only expand at the amount the National Product is growing or the velocity of circulation is decreasing or the anchor country is inflating.

Have all countries flexible exchange rates, such a limit for the expansion of the money supply doesn't exist anymore. This shows in the fact that the rates of inflation have increased considerable all over the world after 1971 respective 1973. Increasing rates of inflation and the opposition against them are the only break against inflation, at flexible exchange rates

4. Organisation of the IMF as a bank

The IMF is not an isolated institution, but consists out of several different institutions:

1. IMF: Tasks: short-term credit granting to Central Banks
2. The agreement of special drawing rights: Task: Short-term credit granting to the Central Banks in slightly changed composition
3. World Bank: long-term credits to countries and to privates with guarantee of state

4. IFC (International Finance Corporation): Task: Credits to economic enterprises in Third World countries.
5. IDA (International Development Association): Task: credits to objects, which could be taken into consideration for the assistance by the World Bank, but which are not lucrative enough, or the country cannot be burdened by further credits.

5. Special Drawing Rights (SDR)

SDR exist since 1969, first defined in gold as the US-\$\$; since July 1st 1974 as a currency basket; composition since January 1996:

	Total amount of currency in the basket	Percentage share in the basket according to the exchange rates of December 1995	Percentage share in the basket according to the exchange rates of October 1996
US-\$\$	0.582	39%	40%
DM	0.446	21%	20%
£	0.105	11%	12%
FF	0.813	11%	11%
¥	27.2	18%	17%

Credit characteristics of the SDR:

Reconstitution corresponds to repayment;

Maintenance of a minimum deposit;

Interests are paid;

Repayment when leaving SDR Agreement;

Since April 1st 1978 Currency basket officially;

Since July 1st 1974 with standard basket instead of gold content.