# GLOBALIZATION WITHOUT GLOBAL MONEY

## THE DOUBLE ROLE OF THE DOLLAR AS NATIONAL CURRENCY AND AS WORLD CURRENCY AND ITS CONSEQUENCES

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## Abstract

Since the end of World War II the dollar has played a double role, it has served as national currency of the US and as key currency of the world economy. As world currency the dollar serves as „numeraire" for supranational flows and stocks since commodities as well as most international assets/liabilities are priced in dollars. Consequently, changes in the interest rate and the exchange rate of the dollar not only impact upon the economic relations between the US and the rest of the world, but influence also the relative prices between commodities and manufactures, the terms of trade between industrial and developing countries, the speed of inflation and deflation in world trade and the level of the real interest on international debts.

As a consequence, the instability of the exchange rate as well as of the interest rate of the dollar since the early 1970s has had a tremendous impact on the international economy (due to the dollar as world currency); at the same time, this instability has been mainly caused by the „inward looking" policy of the US (due to the dollar as national currency).

The most important events in postwar economic development - from the collapse of the Bretton Woods system and the subsequent oil price „shocks" to the international debt crisis in the early 1980s and the East Asian drama in the late 1990s - are linked to the double role of the dollar and the related conflict between the need of stable monetary conditions for the world economy as a whole and the national-oriented economic policy of the US.

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## Introduction

Globalization of markets and enterprises has characterized postwar economic development. As a consequence, the national economies became increasingly interdependent in a process towards a supranational closed system, the world economy. However, the globalization of markets and enterprises has not been paralleled by a globalization of the monetary system, i.e., by a transition from using national currencies towards the creation of a supranational currency as means of transaction and finance.

Rather, an opposite development has taken place: ever since the end of World War II the dollar has been playing a double role, it has served as national currency of the US and as key currency of the world economy. As long as confidence prevailed that the US would stick to the Bretton Woods rules, in particular to the gold parity, the dollar remained a stable substitute for a genuine world currency. However, the double role of the dollar enabled the US to finance her growing external deficit through „dollar exports". By taking advantage from being the „world banker", the US undermined the credibility of the dollar-gold standard and hence, the fundament of the system of stable exchange rates.

After the breakdown of the Bretton Woods system, the dollar has remained the key currency of the world economy, however, a rather unstable one: the dollar exchange rate has fluctuated much stronger than any other exchange rate. The instability of the exchange rate as well as of the interest rate of the dollar was to a great deal caused by the „inward looking" economic policy of the US (due to the role of the dollar as national currency), at the same time, however, this

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I would like to dedicate this essay to Charles P. Kindleberger. He succeeded in all his activities - ranging from his contributions to the realization of the Marshall plan and his theoretical and empirical work in international economics with special regard to the inherent instability of financial markets to his studies in economic history and his teaching - to integrate being an economist and being socially useful at the same time. To put it differently: in the conflict between recognition and interest which characterizes the work of economists specifically, Kindleberger gave a clear priority to the production of concrete insights, useful for improvements of economic life, over the production of abstract theories, useful for justifications of economic interests.

instability had a tremendous impact on the international economy (due to the role of the dollar as world currency).[1])

As world currency the dollar serves as means of international liquidity in general and as „numeraire" for supranational flows as well as for supranational stocks in particular:

- Pricing and trading of almost all standard commodities, in particular of crude oil, are carried out in dollars (commodities are „dollar goods").
- Most international assets/liabilities are held in dollars („dollar stocks").
- The dollar represents the „vehicle currency" in the supranational foreign exchange market.

Consequently, changes in the interest rate and the exchange rate of the dollar not only impact upon the economic relations between the US and the rest of the world (due to the role of the dollar as national currency), but influence also the relative prices between commodities and manufactures, the terms of trade between industrial and developing countries, the speed of inflation and deflation in world trade and the level of the real interest on international debts (due to the role of the dollar as world currency). A further consequence of the double role of the dollar concerns the ability of the US to finance its external deficit through international credits denominated in its national currency.

The paper aims at sketching the impact of changes in the interest rate and exchange rate of the dollar on the development of the world economy as a whole on the one hand and the development of the US economy on the other hand; in particular it is tried to show that the most important events in postwar economic development - ranging from the „oil price shocks" in the 1970s to the financial crises in Latin America in the 1980s and in East Asia in the late 1990s - are linked to the double role of the dollar and the related conflict between the need of stable monetary conditions for the world economy as a whole and the national-oriented economic policy of the US.

The paper is structured as follows:

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[1]) Mainstream theory does not take into account the double role of the dollar as national currency of the US and as world currency, especially under a regime of floating exchange rates; the importance of this aspect was, however, repeatedly stressed by some concretely thinking „elder economists"- to use a term analogous to „elder statesman", see , e.g., the presidential address of Kindleberger, 1986, to the American Economic Association, or his essay collection „International Money", 1981).

supranational foreign exchange market.

- In the last part I sketch how the contradictory relationship between the dollar as national currency and as world currency has shaped post-war development.

Based on some general relationships between changes in the interest rate and the exchange rate of the dollar and the real value of flows and stocks in dollar terms, I investigate empirically the impact of transitions from a regime of a cheap key currency to a regime of an expensive key currency (and vice versa) on the performance of the world economy and the US economy.

Given the heuristic approach and the broad perspective, the paper should be considered an essay also in the literal sense.

## The Exchange Rate of the Dollar as a Supranational „Flow Price“

For a general but still concrete analysis of how changes in the dollar exchange rate impact upon the terms of trade and hence the distribution of earnings from international trade between single economies, I shall specify three types of goods, namely, manufactures, oil and non-oil commodities, and three types of economies, namely, industrial countries, oil-exporting developing countries and non-oil developing countries.

The prices of manufactures are (mainly) determined by production costs in the countries of their origin and are therefore denominated in the currencies of the respective countries („non-dollar goods“ - with the exception of manufactures made in USA). The prices of standard commodities are determined by supply and demand in a truly supranational market and are therefore denominated in the world currency („dollar goods“).

## The Dollar Exchange Rate, Commodities Prices and Terms of Trade

„Dollar goods“, i.e. commodities, comprised on average 35% of world trade between 1965 and 1990, their share in exports and imports differed, however, significantly by country groups:

| | Industrial Countries | Oil exporting Countries | Non-oil developing Countries |
|---|---|---|---|
| Export Share | 22,4 | 92,1 | 51,2 |
| Import Share | 36,8 | 19,7 | 32,5 |

„Ceteris paribus“, i.e. if both, the dollar prices of commodities as well as the national currency prices of manufactures remain constant, any change in the exchange rate of the dollar vis-à-vis all other currencies has two different effects:

- Firstly, it changes the terms of trade between the US and all other countries (due to the role of the dollar as national currency).
- Secondly, it changes the terms of trade between any pair of countries in proportion to the difference in their trade structure with respect to „dollar goods“ and „non-dollar goods“ (terms-of-trade-effect due to the role of the dollar as world currency).

To put it concretely: any depreciation of the dollar against all other currencies deteriorates „ceteris paribus“ not only the terms of trade of the US vis-à-vis Germany but also the terms of trade of, e.g., Saudi-Arabia vis-à-vis Germany since dollar prices of manufactures produced in other countries than the US increase but the oil price does not. Consequently, the stronger the fluctuations of the exchange rate of the dollar are, the stronger are the thereby induced changes in the terms of trade between different countries.

Among all countries the difference between the export and the import share of „dollar goods“ is by far greatest for oil-exporting developing countries. Consequently, the income position of these economies is most strongly affected by changes in the dollar exchange rate. Therefore, also the incentive to react to a dollar depreciation by increasing export prices is by far strongest for oil exporters (by the same token, they can more easily accept a decline in oil prices during a period of a rising dollar exchange rate). As in any struggle over income distribution the extent of price increases of „dollar goods“ in reaction to a dollar depreciation depends more on the market power of the parties involved than on the fundamental market equilibrium. Consequently, net exporters of commodities, in particular of crude oil, will try to increase export prices to the

maximum extent (as determined by the specific historical circumstances) and not just to such an extent as to compensate for the depreciation of their real export earnings due to a preceding depreciation of that currency in which their export prices are denominated.

These direct price adjustments to changes in the dollar exchange rate will take place if oil producers enjoy a high degree of oligopoly or even monopoly power, otherwise the individual oil suppliers will react to changes in the dollar exchange rate through quantity adjustments: since every dollar appreciation (depreciation) implies „ceteris paribus“ an rise (decline) in the real price of oil, it will cause producers to increase (decrease) supply. The aggregate outcome of these adjustments can easily induce a fall (rise) in the price of oil with some lag.

These general considerations help to better understand the fluctuations of commodities prices, in particular the two oil price „shocks“, which evolved since the breakdown of the Bretton Woods system (figure 1)2).

Between mid 1971 and mid 1973 the dollar had lost roughly 25% of its value relative to the 4 other SDR currencies (DM, yen, French francs, British pound). This depreciation induced a significant increase in dollar prices of manufactures in international trade, namely by 30,4% between 1971 and 1973. Over the same period prices of non-oil commodities almost doubled, at least in part fostered by the preceding dollar depreciation and the related inflationary climate in international trade. Both developments deteriorated the income position of oil exporting countries significantly, especially in the Middle East. In reaction to the deterioration of their terms of trade, oil producers more than tripled the oil price in the last quarter of 1973. Several factors fostered the development of the first oil price „shock“:

- The organization of the interests of oil producers in a cartel, the OPEC.
- The high share of OPEC in the world oil market.
- Political and military turbulence in the Middle East: during the Yom-Kippur-War Arabic oil producers announced an oil boycott. However, oil production was actually even increased

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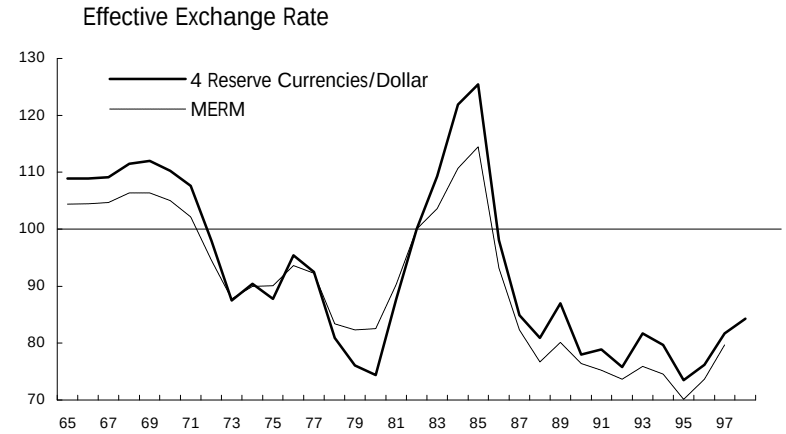
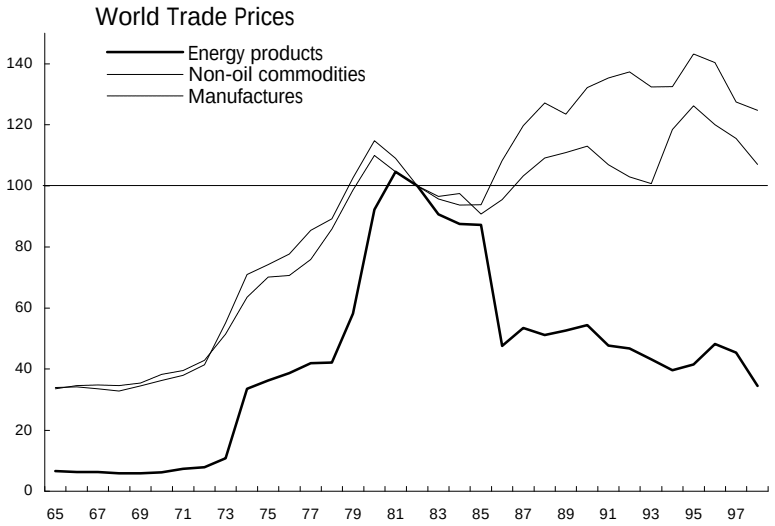
[2]) The annual world trade prices by commodity groups as shown in the graphs stem from a world trade matrix for 80 countries and 4 commodities (SITC 0+1, 2, 3, 5+6+7+8) developed by the UN (trade deflators). Data on changes of the prices for crude oil and of non-oil commodities presented in the text are based on price indices published by the „Weltwirtschaftliches Archiv“in Hamburg (HWWA); these indices are available on a monthly basis and depict spot price movements for different commodities more precisely than the trade deflators (e.g., the deflator for SITC 3 comprises all energy products whereas the HWWA oil price index refers only to crude oil).

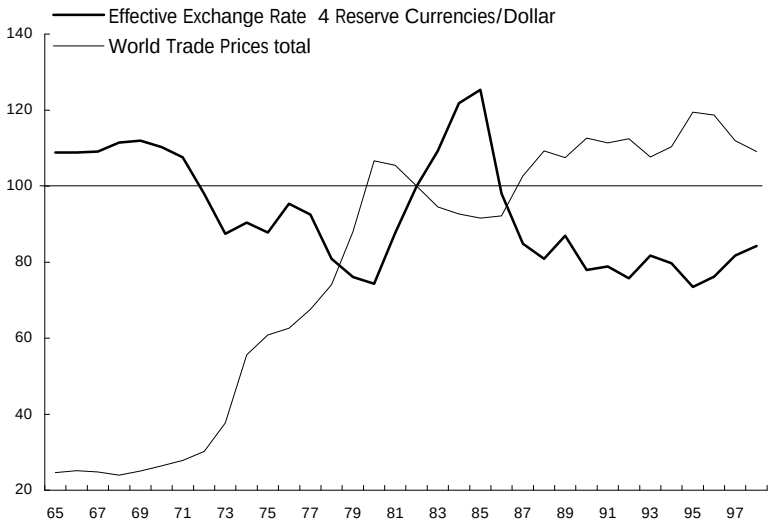
Figure 1

# Dollar Exchange Rate and Dollar Prices in World Trade

1982 = 100



over the last months of 1973, but mainly stored on tankers until the multinational oil companies succeeded in putting through significant price increases.

- The cooperation between OPEC and multinational oil companies thus set free market power „synergy's" which contributed to the extent of the oil price increase.

Between 1974 and 1976 the dollar exchange rate and the prices of „dollar goods" remained relatively stable. The strong dollar depreciation during 1977 and 1978, however, set the same sequence of price movements in motion as between 1971 and 1973 (figure 1). The depreciation of the dollar caused dollar prices of manufactures to rise (by 21,6% between 1976 and 1978), in mid 1978 prices of non-oil commodities picked up and increased within a year by 27,4%. Oil prices remained stable between 1976 and early 1979 so that the oil producers experienced a significant decline in their terms of trade as between 1971 and 1973. In response to this deterioration of their income position, the oil exporting countries increased oil prices in the second half of 1979 to such an extent which again by far overcompensated the preceding terms-of-trade-deterioration. Once again turbulence in the Middle East, namely, the coming to power of the Ayatollahs in Iran and the Gulf war between Iraq and Iran, made it easier for OPEC countries to put through an second oil price „shock".[3])

Over the period of a strongly appreciating dollar, i.e. between 1980 and 1985, world trade prices of manufactures fell in dollar terms by 14,6% (figure 1). Due to the deep recession 1979/82 in industrial countries and the low market power of non-oil developing countries, which was further weakened by the debt crisis, non-oil commodities prices fell even more (by roughly 30%). In 1981 oil prices started also to decline, they fell until 1985 slightly more than the dollar prices of manufactures.

The subsequent, again overshooting depreciation of the world currency between 1985 and 1988 induced a strong increase in dollar prices of both, manufactures (by 35,5%) as well as non-oil commodities (by 33,5%). In order to lay the ground for an oil price increase as reaction to the ongoing dollar depreciation, Saudi-Arabia gave up its role as a „swing producer" by the end of 1985 and flooded the oil market with additional supply: thereby Saudi-Arabia deliberately caused

[3]) When the relationship between changes in oil prices and in the dollar is analyzed in the literature, it is almost always implied that the causality ran from the former - conceived as „shocks"- to the latter (see e.g. Krugman, 1983, or De Grauwe, 1996, p. 146 ff.) That the oil price „shocks"might have been endogenous to a system of unstable exchange rates, has rarely taken into consideration (for an exception see Johnson, 1975, p. 442 f), mainly because the double role of the dollar has not been taken in consideration.

the oil price to plummet which would then force the other, financially weaker OPEC members to stick to their production quota. The fall of oil prices was thus a calculated measure to restore production discipline within the oil cartel and was therefore expected to last only shortly.

However, this strategy, designed by Saudi-Arabia's oil minister Yamani, failed because the market power of the oil cartel had been weakened over the preceding years for both, internal as well as external reasons. Disputes between OPEC members had continuously intensified, in part due to the rising influence of Islamic fundamentalism. At the same time the share of OPEC in the world oil market had strongly declined from almost 70% in the early 1970s to less than 50% in 1985, mainly due to additional supply of North Sea oil.

Between 1988 and 1993 the dollar exchange rate and the relative prices between manufactures and commodities remained rather stable. However, between 1993 and 1995 the dollar depreciated again by roughly 10% against the four other SDR currencies, over the same period the dollar prices of manufactures rose by 8,1% and of non-oil commodities by 36,1%. With a lag of roughly one year oil prices also recovered strongly, rising by almost 30% between 1994 and 1996.

In mid 1995 the dollar started to appreciate faster than it ever had since the early 1980s, until mid 1997 the dollar exchange rate rose by more than 20% against the four other SDR currencies; this appreciation of the key currency induced once again a deflation in world trade as between 1980 and 1985: dollar prices of manufactures declined between 1995 and 1998 by 13%, prices of non-oil commodities even by more than 20%; once again oil prices started to fall one year later, they sunk between 1996 and 1998 by roughly 30% (figure 1).

To summarize: Changes in the exchange rate of the world currency have a significant impact on terms of trade and thus on income distribution in international trade. Any appreciation (depreciation) of the dollar causes dollar prices of manufactures to decline (increase) thereby improving (deteriorating) the terms of trade of net exporters of commodities. This relationship can equivalently be expressed in terms of shifts in the distribution of real income from international trade: any dollar appreciation improves „ceteris paribus" the income position of net exporters of „dollar goods" (commodities) at the expense of net importers of commodities (= net exporters of manufactures).

However, the „cetera" seldom remain „paria" under these circumstances: developing countries will react to any significant deterioration of their income position due to a preceding dollar depreciation by increasing the dollar prices of their main export goods. This is particularly true for

oil exporters from the Middle East since their exports consist almost exclusively of crude oil which in turn is exclusively priced in dollars. If such a retaliation in a struggle over income distribution is successful then the initial acceleration of world inflation caused by a dollar depreciation and the related increase in dollar prices of manufactures is further strengthened by increasing commodities prices as in the 1970s, otherwise it is dampened by falling commodities prices as in 1986.

## The Dollar Exchange Rate and the Sequence of Inflation and Deflation in World Trade

Figure 2 demonstrates the significant influence of the two strong depreciations of the world currency 1971/73 and 1976/78 on the subsequent acceleration of world inflation. Between 1981 and 1985 the overshooting dollar appreciation caused dollar prices in world trade to fall in absolute terms, the subsequent dollar depreciation induced again an acceleration of world inflation which was, however, dampened in 1986 due to the oil price decline. These medium-term fluctuations in world inflation then spilled over to inflationary dynamics within the industrial countries: both significant accelerations of consumer price inflation during the 1970s were to a large extent caused by the much stronger acceleration of inflation in international trade, the significant disinflation in industrial countries over the first half of the 1980s was in turn strongly fostered by falling world import prices.

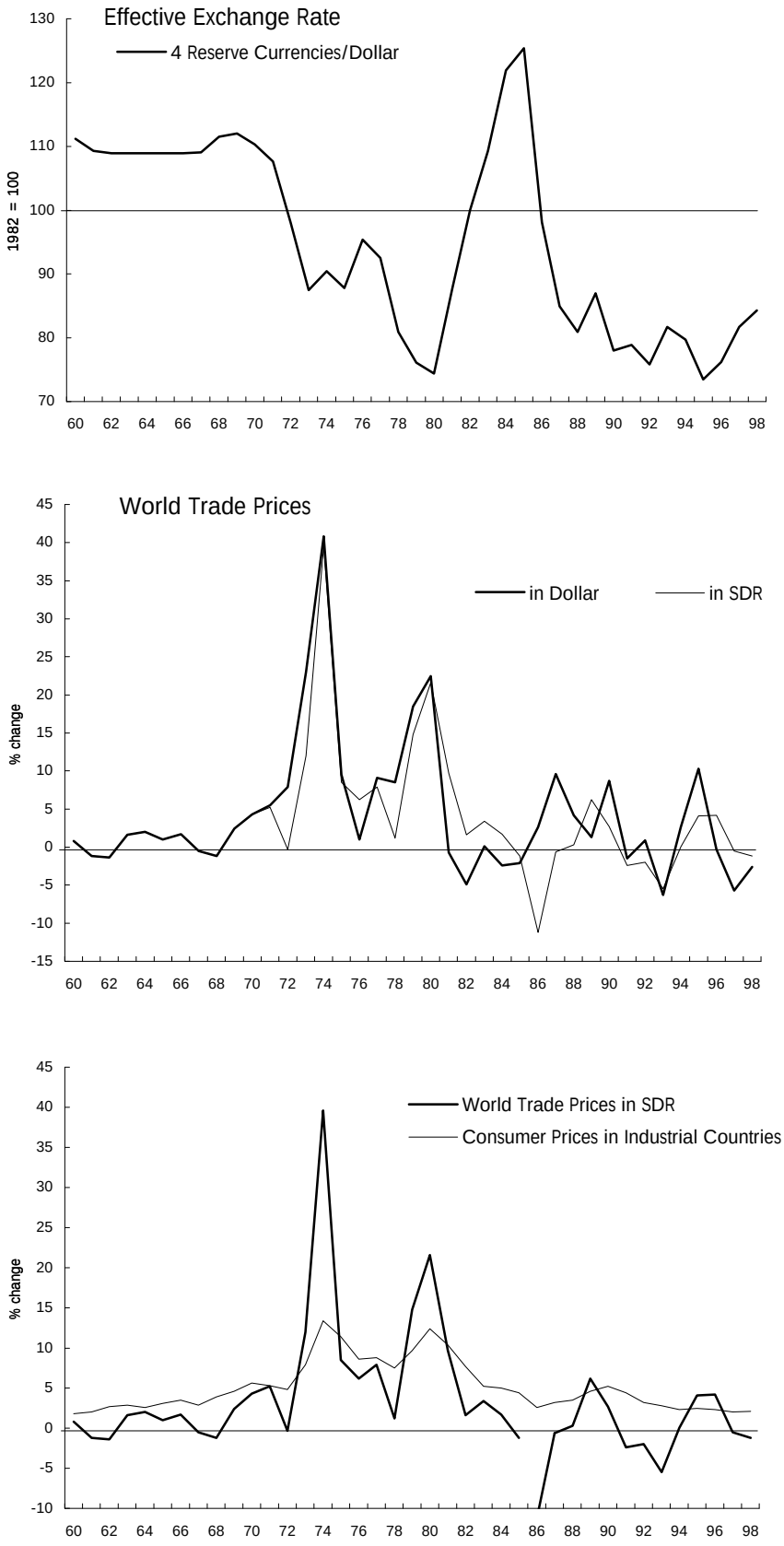
Taking the role of the dollar as world currency explicitly into account leads one to conclude that the two oil price increases should rather be understood as endogenous responses to the two preceding dollar depreciations than as exogenous „shocks".

Both oil price increases had two main effects, they contributed to an acceleration of inflation as well as to a decline of production in industrial countries and an related increase in unemployment. Hence, the Phillips curve relationship broke down in the 1970s primarily due to the destabilization of the world currency and its effects on the international economy. However, the Phillips curve was derived for the case of a closed economy, the coincidence of rising inflation and unemployment caused by world economic developments during the 1970s should therefore not be taken as empirical evidence for the irrelevance of this concept.

As a matter of fact, monetarists mark old and new neglected the importance of the first dollar depreciation and the related oil price „shock" for the subsequent recession and the simultaneously accelerating inflation. This neglect together with the assumption of a „natural" rate of unemployment and of „rational" expectations enabled economists like Friedman and Lucas to

Figure 2

# Dollar Exchange Rate and World Inflation



interpret the coincidence of rising inflation and rising unemployment in such a way as to „prove“ the irrelevance of any full employment policy.

There is a paradox of history to this story: the same economists who used the - alleged - breakdown of the Phillips curve as argument against full employment policy, notably Milton Friedman, had for many years advocated for a system of flexible exchange rates and had thereby indirectly contributed to those international turbulences which were the most important causes for the simultaneous increase in inflation and unemployment.

## The Exchange Rate and the Interest Rate of the Dollar as Supranational „Asset Prices“

Most international financial stocks are held in dollars, this is particularly true for credits to developing countries. Consequently, any change in the exchange rate of the dollar simultaneously changes the value of a dollar debt of any country in terms of a currency basket representing the structure of its export earnings: the higher the share of „non-dollar goods“ in overall exports of an dollar debtor country, the greater the „debt depreciating effect“ of a dollar depreciation and the greater is the „debt appreciating effect“ of a dollar appreciation.

These debt valuation effects of changes in the exchange rate of the world currency can equivalently be expressed in terms of changes in the real rate of interest on an international dollar debt: any dollar depreciation causes „ceteris paribus“ dollar prices of manufactures to increase (except for US manufactures) and hence the real rate of interest (Eurodollar rate minus the rate of change in export prices) to decline.

If commodity prices also increase in reaction to a dollar depreciation, then the real rate of interest on an international dollar debt declines even more.

How does the interaction between the dollar interest rate, the dollar exchange rate and dollar prices determine the movements in the real interest on international debt? On empirical grounds one can discern the following relationships (figure 3):

- A relatively low and declining level of the nominal dollar interest rate as, e.g., 1970/72, 1974/77 and 1981/86 tends to induce a depreciation of the dollar; the opposite is true in the case of a relatively high and rising dollar interest rate as between 1977 and 1981.
- A persistent dollar depreciation causes world inflation to accelerate in dollar terms, a persistent dollar appreciation causes a deflation in international trade.

- Consequently, a relatively low nominal dollar interest rate coincides with a high world inflation, and a comparatively high dollar interest rate coincides with deflation in international trade.

In the international economy the nominal dollar interest rate and dollar inflation rate do not move in a parallel manner over the medium run but rather inversely whereby both movements are linked to each other through changes in the dollar exchange rate. This empirical phenomenon is in contrast to what one would expect according to equilibrium theory. As a consequence of this „anti-Fisher-relation", the movements of the nominal dollar interest rate and the dollar inflation rate reinforce each other so that the real interest rate fluctuates by far most (figure 3).

The strong fluctuations of the real rate of interest relative to the real rate of export growth then determine the speed and the sustainability of the debt accumulation process due to the dynamic external budget constraint. This relationship implies that a debtor country can run a permanent external primary deficit (current account deficit plus net interest payments) without facing an increase in its debt-export-ratio if and only if the rate of interest is lower than the rate of export growth. If, by contrast, the interest rate exceeds the rate of export growth then a debtor country either has to achieve an external primary surplus, i.e., a net resource transfer to the rest of the world, or it will experience a permanent increase in its debt-export-ratio.

The latter alternative, however, is not practicable since creditors will react to a persistent rise in the debt-export-relation sooner or later by cutting additional funds which in turn forces the debtor country to improve its current account, mainly through import reductions. The size of the external primary surplus necessary to stabilize the debt-export-ratio depends on two factors, firstly, on the size of this ratio itself and secondly on the size of the difference between the rate of interest and the rate of export growth.

In an international economic system shaped by an unstable key currency either of two possible regimes prevail concerning the costs of financing external deficits and of servicing the related dollar debts (figure 3):

- A regime of a cheap world currency: such a regime is characterized by a low nominal dollar interest, a declining dollar exchange rate and a high inflation rate of dollar prices in international trade; hence, the real rate of interest on an international dollar debt is often negative as between 1971 and 1980, 1986 or 1995.

- A regime of an expensive world currency: such a regime is characterized by a high nominal dollar interest, a rising dollar exchange rate and a negative inflation rate of dollar prices in international trade; hence, the real rate of interest on an international dollar debt lies persistently at an extremely high level as between 1981 and 1985 or since 1996.

According to the relative dominance of either regime one can divide the period since the breakdown of Bretton Woods into five subperiods:

| | 1971/80 | 1981/85 | 1986/90 | 1991/95 | 1996/98 |
|---|---|---|---|---|---|
| Eurodollar interest rate | 8,5 | 11,7 | 7,8 | 4,7 | 5,6 |
| Change in the dollar exchange (4 RC/$) | -3,9 | 11,0 | -9,1 | -1,2 | 4,7 |
| Change in world export prices | 15,0 | -2,8 | 6,1 | 1,2 | -2,9 |
| Real interest rate on international debt | -6,5 | 14,5 | 1,7 | 3,5 | 8,5 |
| Real rate of world export growth | 4,7 | 2,3 | 7,0 | 7,8 | 7,0 |

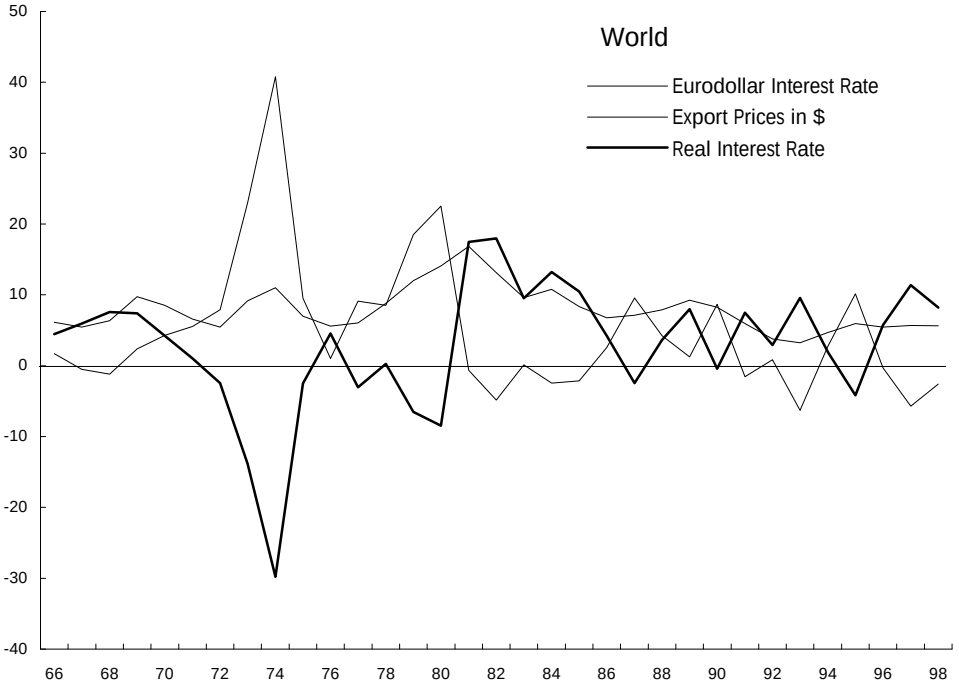
Only in one period, namely in the first half of the 1990s, did the exchange rate and the interest rate of the dollar as well as dollar prices in world trade remain stable over the medium run, so that the real rate of interest stood at an „reasonable“ level of 3,5% on average. All other periods, however, were characterized by extremely high or low costs of financing international debts: over the 1970s the real interest rate was strongly negative (-6,5%), it jumped to 14,5% on average in the first half of the 1980s and was again low during the second half (1,7%). Since 1995 the dollar appreciation and the related deflation in world trade caused the real interest on an international dollar debt to stay extremely high once again (8,5%).

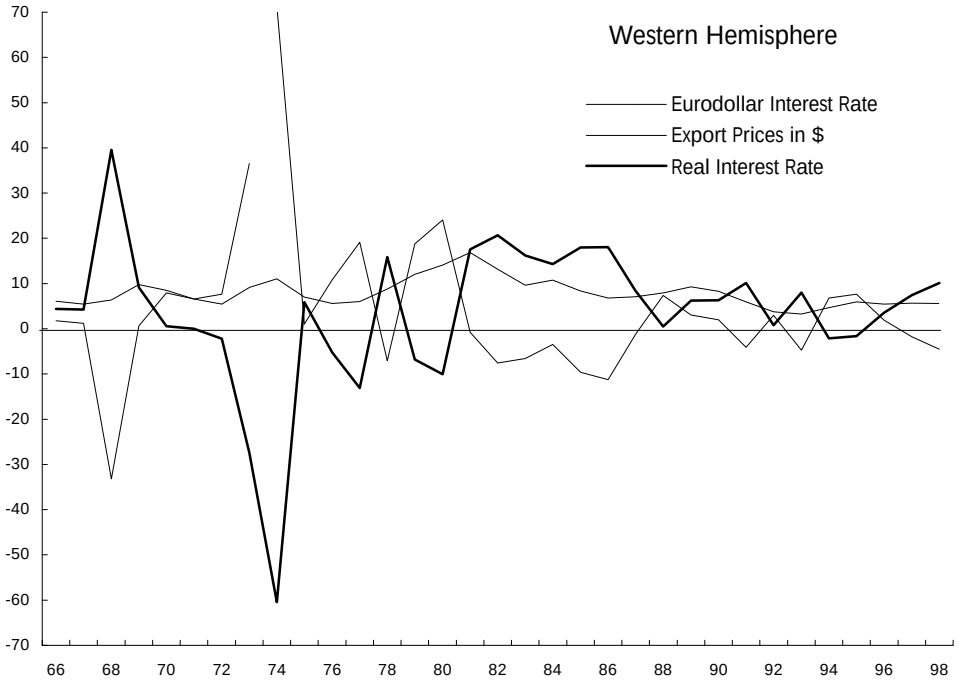
These switches from a regime of a cheap world currency to a regime of an expensive world currency were to a much greater extent caused by changes in the dollar exchange rate and the related changes in world inflation in dollar terms than by changes in the nominal dollar interest rate. This is particular evident in the two periods of extremely high real interest rates (1981/85 and

Figure 3

# Real Interest Rate on International Debt

In Percent



1996/98) when an appreciating dollar induced a persistent deflation of world trade prices in dollar terms (figure 3). [4)]

## The Debt Crisis in Latin America

In the 1970s the constellation of a low dollar interest rate and a high dollar inflation resulted in a strongly negative real interest rate on international debts. Export prices of Latin American countries (Western Hemisphere in the terminology of the IMF) increased faster than overall world trade prices (due to the high share of commodities in their exports) so that the real rate of interest on the external debt of these countries (-8,9%) was even lower than the world average (-6,5% - figure 3). These extremely low costs of financing external deficits induced (and seduced) many developing countries, particularly in Latin America, to keep import growth on a high level in spite of a slow-down in export growth, mainly caused by the two recessions in industrial countries, and to finance their rising external deficit by piling up a huge amount of international debts. This behavior of developing countries during the 1970s had three main effects (since this behavior was most pronounced in the case of Latin America, I shall take this country group as example):

- Latin America experienced the highest economic growth in post-war history, GDP per capita grew by 3,5% on average between 1970 and 1980 (some countries like Brazil or Mexico, realizing growth rates of 7% and more, could be called the „tigers“ of the 1970s). This dynamic development was to a great deal enabled by a strong increase in imports which expanded on average by 7,0% in real terms.
- By strongly increasing their imports these countries (and most other non-oil developing countries) acted as „spenders of last resort“ during the recessions of 1974/75 and 1979/82 when industrial countries decreased imports to such an extent which could not be compensated by additional demand stemming from oil producing countries (figure 7).
- In terms of financial flows, the Latin American countries took over a great part of the surpluses of oil exporting countries by running high external deficits (figure 7).

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[4)] The neglect of the dollar interest rate and the dollar exchange rate (via its impact on dollar prices in world trade) as determinants of the real interest on international debts can be seen from the following example: in his „World Economic Outlook“the IMF regularly publishes a „world real long-term interest“which is calculated as an weighted average of the bond rates deflated by the GDP deflator (both in national currencies) of the G7 countries. This average over national real interest rates should not be termed „world real interest rate“since it completely overlooks the inflation/deflation in world trade in terms of that currency in which most international debts are held.

Even though the external debt of Latin America expanded at a very high rate (by almost 20% per year), the debt-export-ratio remained stable; this was possible because the rate of interest was on average by 11,3 percentage points lower than the rate of export growth which in turn was mainly due to the strong increase in export prices in dollar terms (figure 3).

Between 1980 and 1981 the real interest on the external debt of Latin America increased by almost 30 percentage points due to a simultaneous increase in the interest rate and the exchange rate of the dollar which in turn caused dollar prices in international trade to fall in absolute terms (figures 3). At the same time real export growth of these countries was dampened by the severe recession in industrial countries. As a consequence, the difference between the rate of interest and the rate of export growth increased dramatically, namely from -11,3% (1971/80) to 14,2% (1981/86). The extent of this difference caused the debt-export-ratio to increase by almost 50% between 1980 and 1982 in spite of the fact that Latin American countries sharply reduced real imports (by more than 20%).

The creditors reacted to this deterioration of the financial stance of practically all heavily indebted countries by significantly reducing the flow of additional funds which in turn made it impossible for these countries to further service their debts; as a consequence, the international debt crisis broke out in 1982. Even though developing countries in Latin America but also in Africa managed to achieve significant trade surpluses (mainly by cutting imports - see figure 8), their debt-export-ratio continued to rise, primarily because the rate of interest persistently exceeded the rate of export growth. The main cause for the size of this differential was the continued rise of the dollar exchange rate and the associated dollar deflation in world trade (figure 3).

In 1985 international financial conditions shifted from a regime of an expensive world currency to a cheap world currency. The interest rate and the exchange rate of the dollar declined and international dollar prices picked up again (despite the oil price collapse) causing the real rate of interest on international debt to fall by roughly 20 percentage points (figures 3 and 4). For Latin American countries real costs of financing their debts declined even stronger though one year later than on world average. As a consequence the rate of interest again became lower than the rate of export growth which enabled these economies - together with their continuing primary surpluses - to significantly reduce their debt-export-ratio. This development mitigated the debt crisis: a net inflow of financial capital lay the ground for an increase in real imports which together with rising direct investments induced a strong recovery in this region in the early 1990s (figure 8).

## The Financial Crisis in East Asia

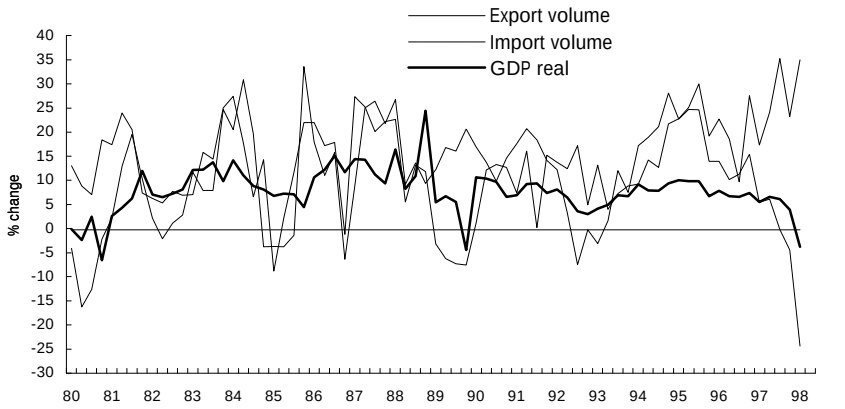
Until the debt crisis of 1982 developing economies in Asia, Latin America and - to a lesser extent - also in Africa had been growing at roughly the same rate, afterwards real imports and GDP per capita stagnated for almost one decade in Latin America and remained sluggish in Africa over most of the 1990s (figure 8). The Asian economies, by contrast, continued to grow at high rates, fostered by an tremendous expansion of real imports, in particular of investment goods (since these countries had not been hit by the debt crisis their import growth was not financially restricted). As a consequence, the external balance of developing countries in Asia deteriorated strongly and continuously between 1986 and 1996 (figure 8).

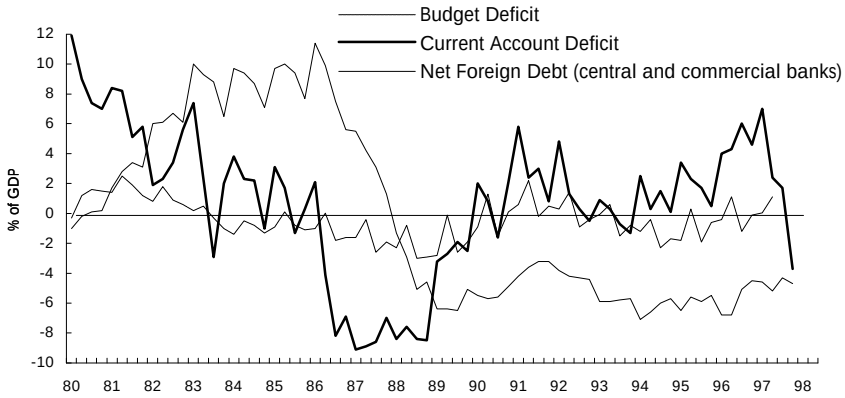
However, some countries in East Asia had successfully transformed themselves into industrialized economies („tiger countries") and became so competitive, that their exports could keep pace with their import growth. Probably the most impressive example for a dynamic „tiger economy" is South Korea (figure 4): imports, exports and GDP grew between 1982 and 1997 at annual rates of 12,4%, 13,4% and 8,5%, respectively, government finance as well as the current account were in balance over the medium and long run (since the Korean economy had performed particularly well and had still been hit by the financial crisis of 1997, I try to elaborate those reasons for this crisis which are related to the double role of the dollar, using the case of this country as example).

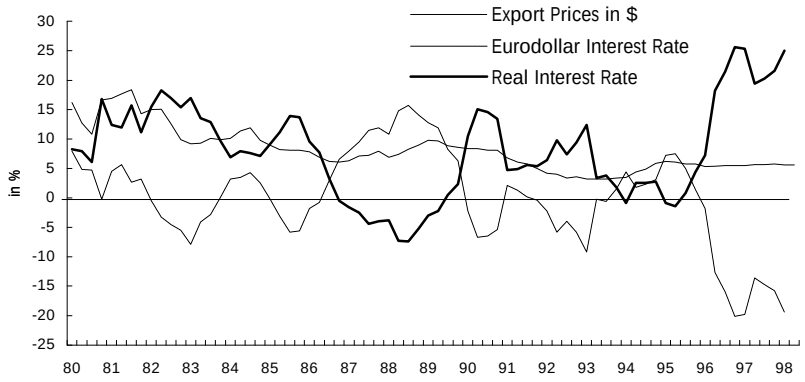
Two developments in the prehistory of the financial crisis of 1997 were common to all „tiger states", in particular South Korea, Thailand and Indonesia: First, their current account deficits worsened markedly since 1993/94 and, second, they funded these deficits chiefly with dollar loans from Western banks, notably in Germany and Japan. The main cause of current account deficits in the East-Asian developing countries were a widening growth gap between them, Europe and Japan: since the early 1990s, sustained high interest rates, the collapse of stable exchange rates within the EMS, and concerted fiscal restriction in the wake of Maastricht have slowed economic growth in Europe; in Japan economic growth slowed primarily because of the appreciation of the yen together with the bursting of the speculative bubble in the stock and real estate markets and its „legacy", i.e., the amount of „bad debts" held by Japanese banks. Over the same period, real investment and production in East Asia continued their rapid expansion. As a result, East Asian demand for EU (and Japanese) imports grew far faster than the other way round. That is, demand from the Tiger states mitigated the 'home-made' crisis in the EU and Japan (in a similar way Latin America had mitigated the crisis in the OECD countries in the early 1980s).

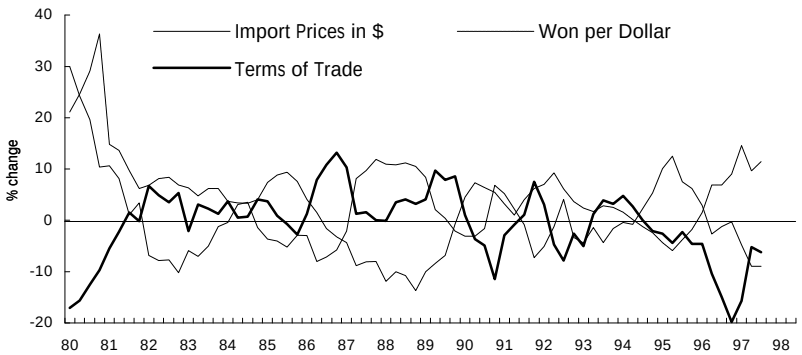
Figure 4

# Development of the Financial Crisis in South Korea



What triggered the financial crisis 1997 was neither the level of foreign debt nor the rate of its growth, but the fact that it was held primarily in dollars and that from early 1995 onwards, the dollar began appreciating faster than it ever had since the early 80s. By mid 1997, the dollar exchange rate had risen from DM 1.40 to DM 1.80 and from ¥ 85 to ¥ 115 (i.e., by 30% and 35% respectively). This cut the dollar export revenues needed to service the foreign debt: for example, a car exported to Germany and sold at DM 20,000 earned Hyundai about $14,400 in mid-1995. Two years later, this was down to around $11,100 – solely because the dollar had risen against the D-mark (in the short run at least, a country's ability to service dollar-denominated foreign debt depends not on the exchange rate between the dollar and its own currency, but on that between the dollar and other currencies in which it earns export revenues).

The effect of the dollar appreciation on the dollar export earnings is reflected in the development of export prices in dollar terms: they declined between mid 1995 and 1997 for South Korea by 14,0% per year, the real interest on an dollar debt amounted to 18,8% in 1996 and to 21,1% in 1997 (figure 4). The main reason why the dollar prices of Korean exports fell much stronger than on world average lies in the fact that the Won had started to depreciate against the dollar in the first quarter of 1996, one year later the Won had lost almost 15% of its value. Since Korean producers priced exports mainly in terms of their costs in Won, export prices and export earnings in dollar were particularly depressed. The related decline in the terms of trade contributed to the deterioration of the current account (this J-curve-effect is shown in figure 4). Thus, the empirical evidence suggests that the depreciation of the Won has contributed to the development of the financial crisis in South Korea; this is in contrast to the mainstream explanation of the crisis which holds that keeping the currencies of the tiger economies at a stable parity vis-à-vis the dollar was a major factor for the deterioration of their current account.

The most important common reason why such different economies as Thailand, Indonesia, Malaysia and South Korea were 1997 confronted with a shortage in international liquidity consists of three elements:

- A widening of the growth gap between these countries and Japan as well as the European Union in the course of the 1990s caused the current account of the tiger economies to deteriorate.
- These countries financed their external deficits chiefly with short-term dollar credits from Western banks, in particular from Japanese and European banks (since the latter were excessively liquid due to sluggish growth in the respective economies).

- This way of external financing worked well as long as a regime of a cheap world currency prevailed. However, in order to dampen a - only potential - inflationary pressure in the US, the FED started to increase the dollar interest rate in 1994; the stepwise rise of the key interest rates in the US caused the Eurodollar rate to almost double from 3,5% in early 1994 to 6,2% one year later; this development together with the strong performance of the US economy relative to the European Union and Japan induced a steep appreciation of the dollar and thus a „tilt" from a cheap to an expensive world currency: for the first time since the early 1980s was the world economy characterized by a deflationary regime in dollar terms and consequently by an extremely high real interest on international dollar debts (figures 3 and 4).

These three elements characterized the development in all tiger economies before the outbreak of the crisis in mid 1997 (they had also been part of the prehistory of the Latin American debt crisis), causing in the first place a shortage in dollar liquidity on behalf of the debtor countries. The difficulties in servicing their short-term dollar debt then shattered the confidence of the lending banks and induced them to withdraw their capital abruptly; even though such actions seemed rational for an individual bank, their aggregate outcome was rather disastrous: financial panic brought the tiger economies to the brink of insolvency and forced them to much higher reductions in imports and production than would have been necessary had the financial debts been restructured in an coordinated way.[5])

## The „Spill-over" of the Financial Crisis to Russia and Latin America

The current financial crisis in Russia and the related collapse of the ruble exchange rate are not only in the rather vague sense of contagion in financial markets linked to the crisis in East Asia, but also through two concrete channels which are related to the double role of the dollar:

[5]) Radelet and Sachs (1998) document carefully (and convincingly) how the crisis in East Asia turned from an illiquidity crisis (almost) into an insolvency crisis. However, the authors underestimate to my mind the impact of the increase in the interest rate and particularly in the exchange rate of the dollar on the development of the crisis since they do not explicitly distinguish between the dollar as currency of the US and as world currency; e.g., when explaining the fact that the growth of export earnings in dollar declined strongly in all countries comprised in table 6, the authors mention the dollar appreciation only in the last place (p. 33f). And even in this context the authors seem to consider as the most important channel through which a dollar appreciation affected the tiger economies the peg of their currencies to the dollar: if this had actually been the case then the dollar appreciation vis-à-vis the Yen or the Deutschmark would have reduced the value of export earnings in terms of the domestic currencies of the tiger countries - however, such a dollar appreciation reduces in any case the export earnings in that currency in which an international debt is held, i.e., in dollars (irrespectively, whether the national currency is pegged to the dollar or not).

- Firstly, Western banks almost flooded Russia with short-term loans exactly at the time when they withdrew capital from East Asia: investments in Russian debt securities amounting to only 8 bill. $ in 1996 increased to 13 bill.$ in the first half of 1997 and reached even more than 30 bill.$ in the second half of that year. Obviously, the banks tried to take advantage from the high ruble interest rates in the belief that the ruble exchange rate would remain stable to the SDR as had been the case since early 1995.

- Secondly, the confidence in the stability of the ruble exchange rate was shattered during the last quarter of 1997 due to the sharp fall in oil prices which in turn was to a large extent induced by the preceding appreciation of the dollar as world currency. As a consequence the banks tried to withdraw their funds from Russia and to lobby for further „financial injections" for Russia by the IMF.

Also the worsening of the financial situation in Latin America in 1998 can be attributed not only to contagion effects, but also to the real costs of financing international debts: as a consequence of the strong dollar appreciation and the induced fall in commodities prices (with a lag of roughly one year concerning crude oil), export prices in dollar of Latin American economies fell in 1997 and 1998 so that the real interest on international dollar debts increased to more than 10% in 1998 (figure 3). This development contributed to the further deterioration of the current account in 1997 and most probably also in 1998 (figure 8).

## The Role of the Dollar in the Supranational Markets for Foreign Exchange

As the „numeraire" currency the dollar dominates the foreign exchange markets with respect to quotation standards, trading practices and expectations formation:

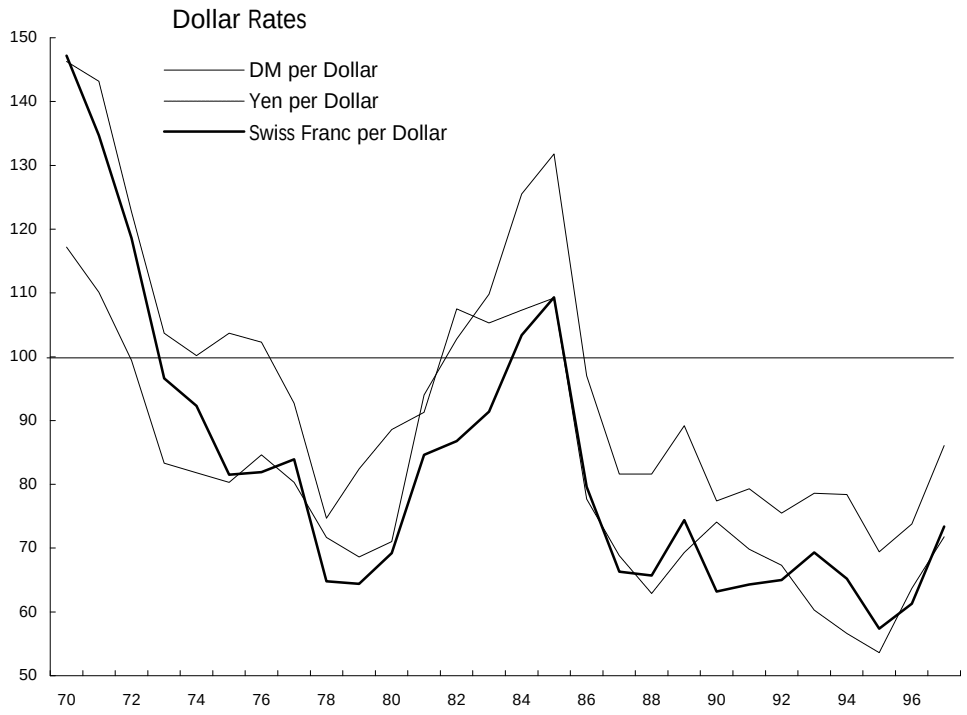
- The exchange rate of any single currency vis-à-vis the dollar is taken as the most important indicator for the external value of that currency (cross rates only play a minor role in the practice of exchange rate quotation, the most meaningful effective exchange rates are considered only by economists but not by traders).

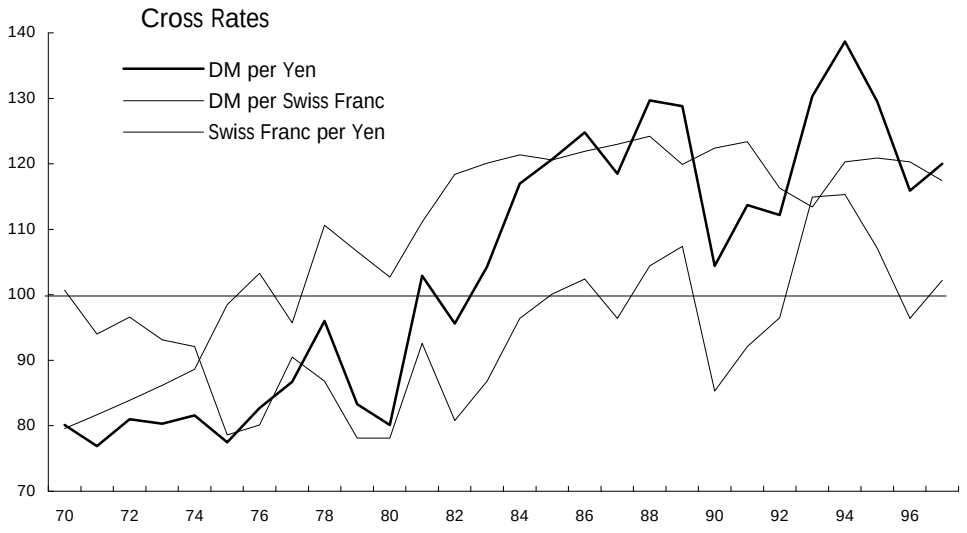
- Almost all foreign exchange transactions concern trades between the dollar and some other currency (the dollar serves as „vehicle currency").

- Exchange rate expectations are formed primarily with respect to future movements of dollar rates and not of cross rates.

Figure 5

# Exchange Rate Fluctuation and Purchasing Power Parity
## PPP = 100



These characteristics of the foreign exchange market have a strong impact upon the different dynamics between the dollar rates on the one hand and the cross rates on the other (figure 5):

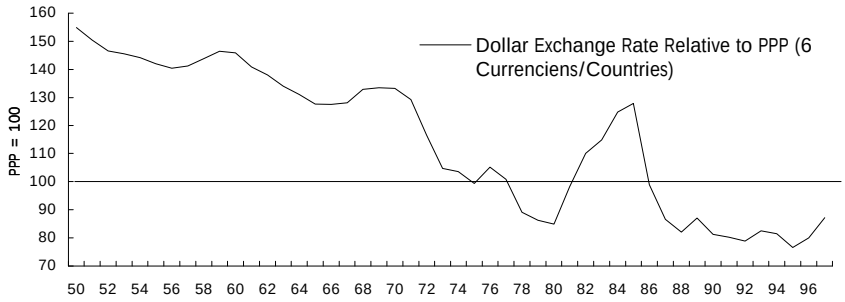
- The exchange rates of the dollar vis-à-vis the most important other currencies move in a parallel manner.
- The extent of overshooting is much greater in the case of the dollar than of the other currencies: the dollar rates as depicted in figure 5 deviated on average (1971/92) by almost 20 percentage points from purchasing power parity, the cross rates only by less than 13 percentage points).
- Also the volatility of the dollar rates in terms of hourly, daily or monthly changes is much higher than that of the cross rates: the standard deviation of monthly exchange rate changes was roughly by 35% higher for the dollar rates as compared to the cross rates.
- Consequently, that currency which serves as the key currency in the world economy, the dollar, is at the same time the most unstable of all currencies (as we shall see, there is a simple reason for this: the key currency is also the key „jeton" in the supranational foreign exchange casino).

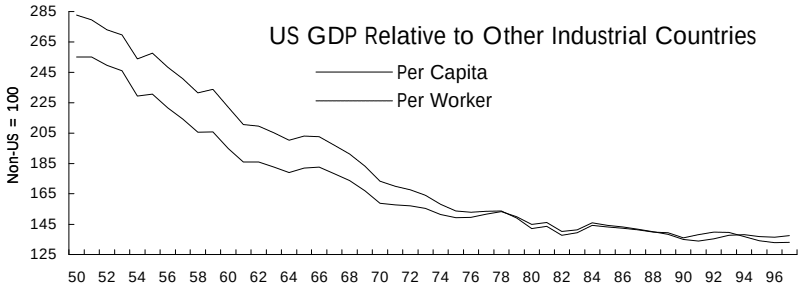
Exchange rate theory does not take into account the significant differences in the dynamics of the dollar rates and the cross rates. Instead, theories as well as empirical exchange rate studies model the exchange rate of the dollar in the same way as that of any other currency.

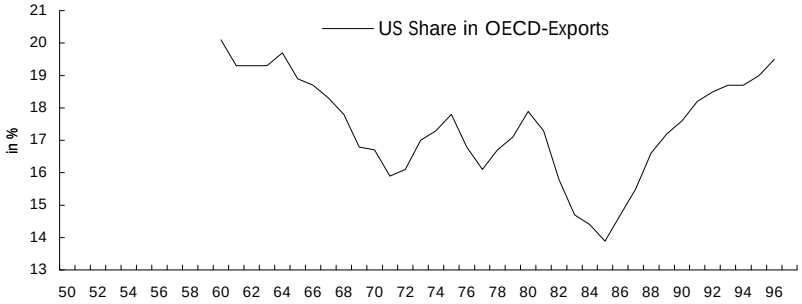
The wild swings of exchange rates – and particularly dollar rates – between overvaluation and undervaluation result from the prevalence of short-term speculation based on chart techniques (Taylor-Allen, 1992; for a comprehensive description of technical trading systems see Kaufman, 1987). If a price rises past a set limit, these computer models generate 'buy' signals that, once heeded, drive the price up yet further, causing other - relatively slower - models with a longer 'fuse' to generate buying orders in turn, and so on. This produces upward or downward runs systematically. With the expansion of derivative markets, these 'games' are increasingly destabilizing not only exchange rates, but also interest rates, raw material prices (particularly oil) and share prices (Schulmeister, 1988; Schulmeister-Goldberg, 1989).

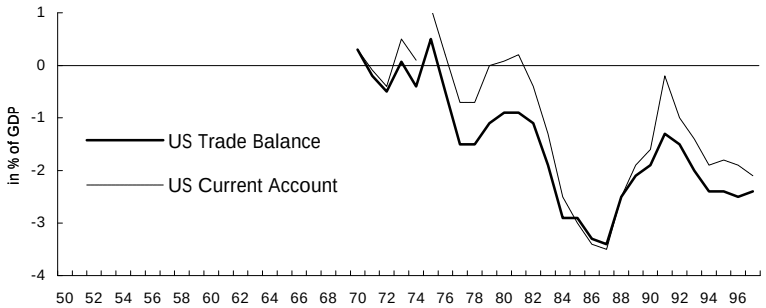
Figure 6

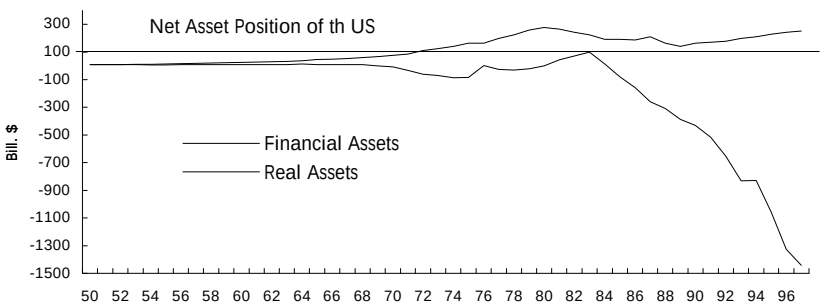
## The International Monetary System and the US Economy



## How the Double Role of the Dollar has Shaped Postwar Economic Development

In the final part of this paper I would like to summarize how the conflicts between the role of the dollar as national currency of the US and its role as world currency have shaped postwar economic development. In doing so I will particularly stress one aspect: The fiscal and monetary policy of the US focuse on the internal problems of their national economy, like in the case of any other country; at the same time, however, this internally or nationally oriented economic policy of the US often has a tremendous impact on the world economy because the dollar serves also as the key currency of the international economy.

### The US and the World Economy under the System of Bretton Woods

The strong catching up of industrial countries vis-à-vis the leader USA in the 1950s and 1960s was in part caused by the Bretton Woods system (figure 6):

- The stabilization of exchange rates strongly contributed to the high growth in international trade; the US which was an almost closed economy in the 1950s and 1960s could profit less from this development than the other industrial economies which were more open.
- Also the great extent of the overvaluation of the dollar enabled the other industrial countries to grow at a significantly higher rate than the US.

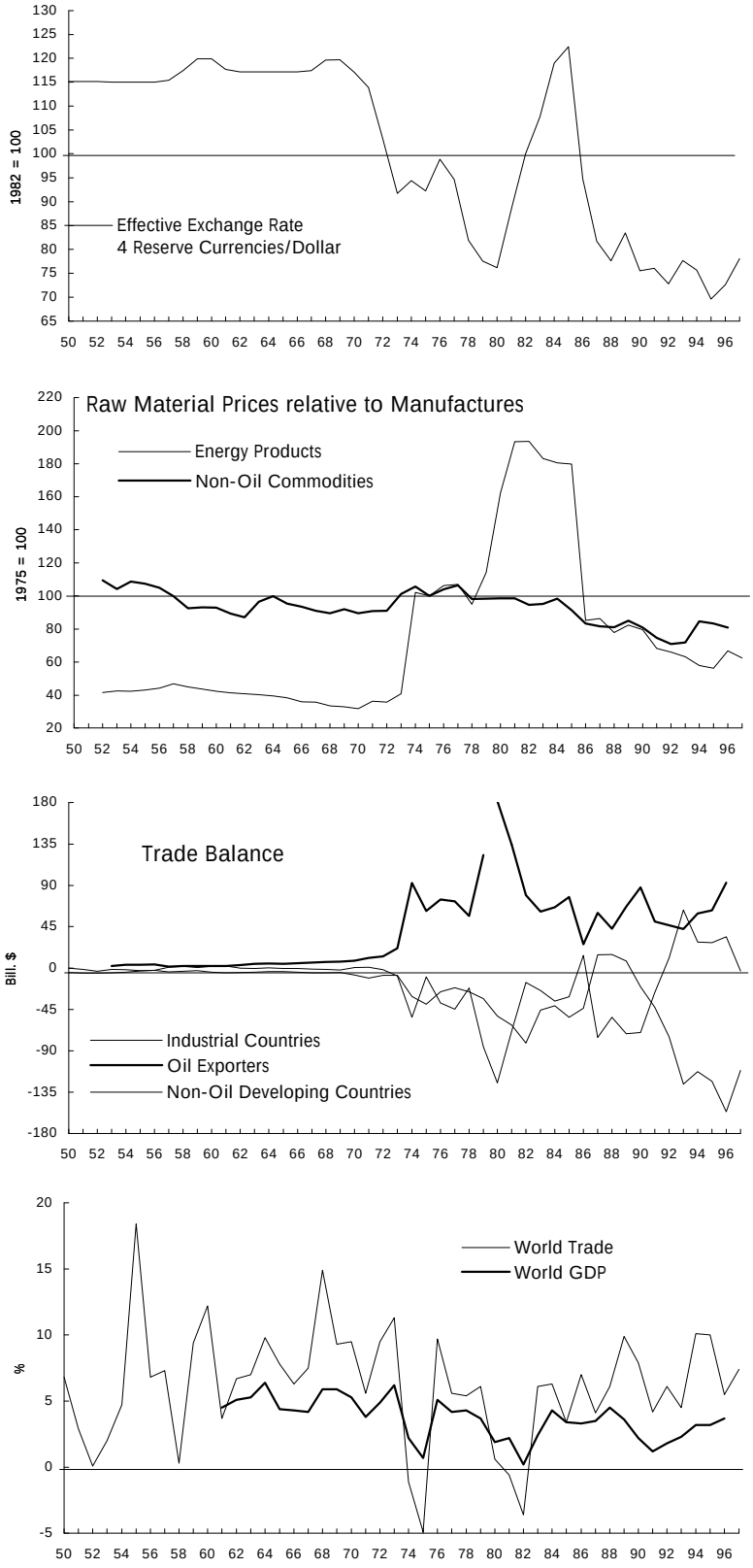
This catching up together with the overvaluation of the dollar caused the market share as well as the trade surplus of the US to decline (figure 6). At the same time there was a significant flow of dollars from the US to the rest of the world due to high direct investments abroad, payments for economic assistance as well as military spending.

Even though the obligation to keep the dollar exchange rate stable at an overvalued level became a burden for the real sector of the US economy, it provided favorable conditions for the world economy as a whole: the stable dollar exchange rate strongly contributed to the stability of relative prices between commodities and manufactures and hence, to the stability of terms of trade between industrial countries, oil exporters and non-oil developing countries (figure 7). Stable terms of trade in turn helped to avoid struggles over the distribution of trade earnings through excessive increases in export prices.

Under these favorable conditions persistent trade imbalances did not emerge, so that no country group had to adjust to external imbalances by reducing imports (figure 7). This fact significantly

Figure 7

# The International Monetary System and the World Economy I



contributed to the unprecedented high growth rate in world trade. At the same time the expansion in international trade stimulated continuously growth in overall production as can be seen from the fact that world trade grew at a persistently higher rate than total output).

The stability of the dollar exchange rate was accomplished by the (relative) stability of the nominal dollar interest rate, mainly because stabilization of the financial conditions for the accumulation of real capital was an explicit target of economic policy (not just in the US). Except for the Korea boom in 1951, also inflation in world trade fluctuated little. Consequently, the real rate of interest rate on international debt also remained stable, at the same time it was persistently lower than the rate of growth in world trade (figures 7 and 8). This constellation facilitated the financing of temporary external imbalances (due to the dynamic external budget constraint).

During the second half of the 1960s, the internally oriented economic policy of the US became increasingly expansionary causing inflation to significantly accelerate. At the same time the escalation of the Vietnam war induced a further deterioration of the balance of payments of the US which was financed through dollar exports. As a consequence, the discrepancy between the amount of dollar assets outside the US and the gold reserves of the US widened more and more („dollar glut“).This development undermined the credibility of the gold parity of the dollar and consequently of the Bretton Woods system. As a first step in its abandonment the US suspended the gold convertibility of the dollar vis-à-vis private holders of dollar assets outside the US in 1968.

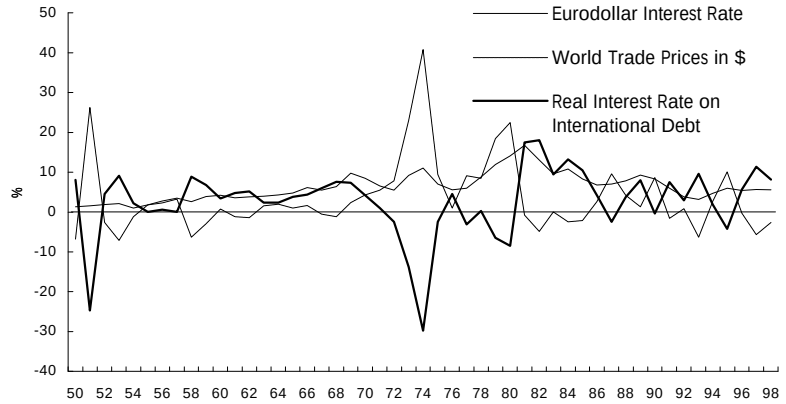
In order to fight the pronounced recession in 1970, the US reduced interest rates significantly. Given the already strong pressure on the dollar exchange rate, particularly relative to the DM, this decline in dollar interest rates induced a huge capital flow out of the dollar in anticipation of a dollar devaluation. As a consequence, the US had to suspend the gold convertibility of the dollar also vis-à-vis central banks and to devalue their currency in 1971. These events constituted the decisive steps towards the definite breakdown of the system of fixed exchange rates which took place in early 1973 (for a comprehensive treatment of the structural reasons for the collapse of the Bretton Woods system see Guttmann, 1994, chapters 14 and 15).

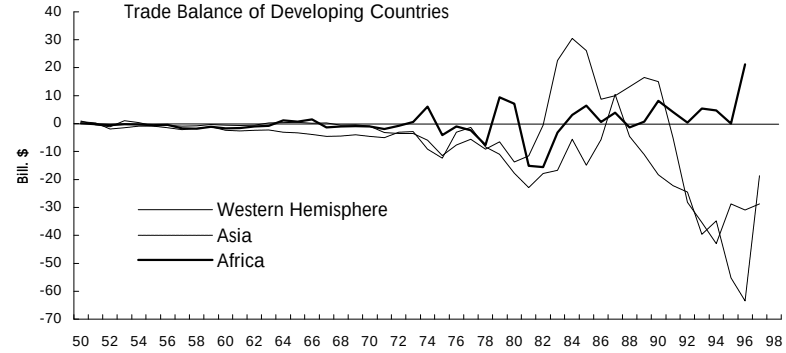
Speaking more generally one can distinguish three main reasons for why the Bretton Woods system had to collapse:

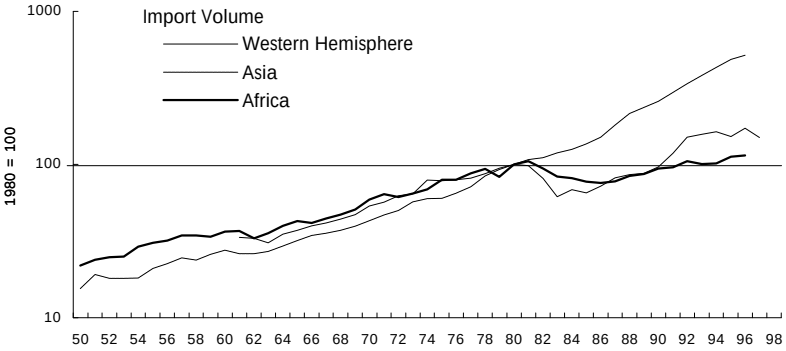
- First, the success of the Bretton Woods system itself: Stable exchange rates, a highly overvalued dollar and a continuous stream of US investments abroad strongly favored the catching up of the other industrial countries. The related deterioration of the balance of

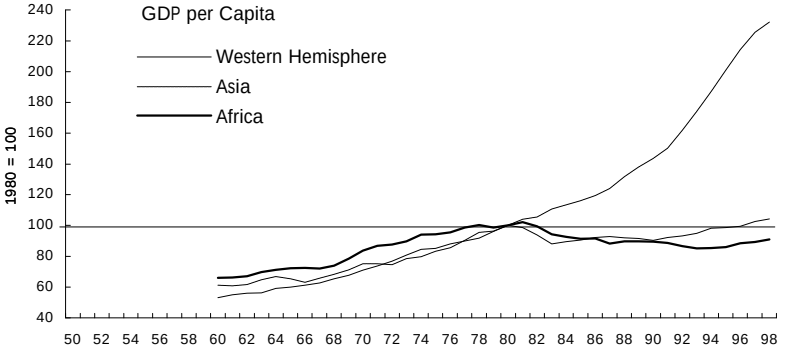
Figure 8

# The International Monetary System and the World Economy II



payments of the US caused the discrepancy between the amount of dollar assets circulating outside the US and the amount of gold reserve of the US to grow continuously.

- Second, the inflexibility of the Bretton Woods system: There was no mechanism built into the system which would have provided an adjustment of the dollar exchange rate to the losses of market shares of the US due to the overvaluation of the dollar as well as to the catching-up of the other industrial countries (it became a growing burden for the real sector of the US economy that the dollar served as world currency).
- Third, the exploitation of their position as the „world banker" by the US: by financing her external deficits through debt securities denominated in her national currency the US undermined the credibility of the dollar as world currency.

## The US and the World Economy under an Unstable Dollar

Once the US had unloaded the burden of keeping the dollar exchange rate stable, the FED followed an expansionary policy: the low federal funds rate - it was even negative in real terms between 1974 and 1977 - contributed to the strong depreciation of the dollar, by the end of the 1970s the exchange rate of the dollar vis-à-vis the currencies of the other G7-countries was lower than PPP for the first time (based on a GDP-"basket" - figure 6). The low real interest rate and exchange rate of the dollar helped the real sector of the US economy to be remain relatively little affected by the international turbulences, not least due to a rising market share (figure 6): economic growth in the US declined less than in the other industrial countries, the catching-up of the latter came to an halt (figure 6).

For the world economy as a whole the nationally oriented policy of the US had far reaching consequences. The two strong depreciations of the world currency contributed significantly to the two subsequent oil price „shocks" and the related shifts in the terms of trade between industrial countries, oil exporters and non-oil developing countries which in turn caused imbalances in international trade to grow tremendously (figure 7). High inflation in world trade in dollar terms caused the real interest rate on international debt to become strongly negative (figure 8). Under this condition many developing countries, particularly in Latin America, accumulated a huge amount of debts which enabled these countries to accelerate import growth in spite of a significant decline in export growth. Nevertheless, the debt-export-ratio of developing countries did not rise since the interest rate on international debt remained much lower than the rate of export growth.

At the same time the oil price „shocks“ triggered off two severe recessions as well as two waves of accelerating inflation (figure 2). The constellation of a rise in unemployment and inflation was then taken as evidence against the whole concept of Keynesian macroeconomics, in particular by those economists like Milton Friedman, who had strongly advocated a system of floating exchange rates and thereby indirectly contributed to realization of this constellation.

The monetarist (counter)revolution got additional support from the financial sector and particularly the owners of financial assets (the „city“ and the „rentiers“ in Keynesian jargon), who were hit hardly by the extremely low dollar interest rate, the declining dollar exchange rate and high inflation. The switch in mainstream economics became effective as fundamental change in monetary policy: under its new chairman Paul Volcker, the FED gave up the target of stabilizing interest rates at a relatively low level (below the rate of growth over the medium run) in order to stimulate the real sector in favor of stabilizing money growth in order to fight inflation (thereby stimulating the financial sector).

The shift in the US economic policy from loose to tight money induced a strong appreciation of the dollar in 1980 which continued until 1985. This overshooting increase in the price of the world currency triggered off a deflationary regime. The fall in world trade prices in conjunction with rising nominal dollar interest rates then caused the real interest on international debts to increase dramatically (figures 2 and 8). At the same time export growth of debtor countries was dampened by the recession 1980/82. Under this condition the debt-export-ratio had to rise tremendously (due to the mechanics of the external dynamic budget constraint) which in turn triggered off the debt crisis in 1982. As a consequence, the debtor countries, particularly in Latin America, were forced to run huge current account surpluses which they could achieve only by cutting imports. This development was the main reason for the decline in real GDP per capita in Latin America and - to a lesser extent - in Africa between 1980 and 1990. By contrast, developing countries in Asia, having accumulated much less debts over the 1970s, could continue to run trade deficits which facilitated the prolongation of their dynamic development (figure 8).

For the US economy the combination of a high dollar interest rate and a rising dollar exchange rate had contradictory consequences. The financial sector boomed and became more innovative than ever before (in particular with respect to financial derivatives), the real sector, however, remained depressed: the recession in the early 1980s was the longest in postwar history, the losses in market shares incurred by US exporters between 1980 and 1985 were dramatic, the Japanese economy seemed to challenge the technological leadership of the US and its current account deteriorated persistently.

In reaction to these developments the FED loosened its monetary policy in mid 1985 which induced in conjunction with the high current account deficit a strong and again overshooting depreciation process of the dollar; since then the dollar has been persistently undervalued which is the most important reason for impressive market share gains by US exporters (figure 6).

In reaction to this strong decline in the value of that currency in which crude oil is traded, Saudi-Arabia attempted to force the other OPEC members to stick to their production quota as a prerequisite for an oil price increase. The failure of this attempt led to a halving of the oil price in 1986, in the following years the oil price remained at this new, relatively low level. As a consequence of this development, the imbalances in international trade narrowed significantly (figure 7) and dollar prices in world trade increased only modestly (figure 8).

For national economic interests, i.e., in order to dampen a potential inflationary pressure the FED started to increase the dollar interest rate in 1994, which lay the ground for the strongest and most persistent dollar appreciation since 1980, taking off in 1995 (this turn in the medium-term development of the dollar exchange rate was also strongly influenced by the great discrepancy in economic performance between the US on the one hand and the EU and Japan on the other as well as by the simple fact that the overdepreciation of the dollar had gone too far in early 1995).

For the world economy the dollar appreciation 1995/97 had qualitatively similar effects as in the early 1980s: dollar prices in world trade declined significantly and the real interest on international debts soared. This development hit the dynamic economies in East Asia most since their external dollar debt had grown particularly strongly over the 1990s.

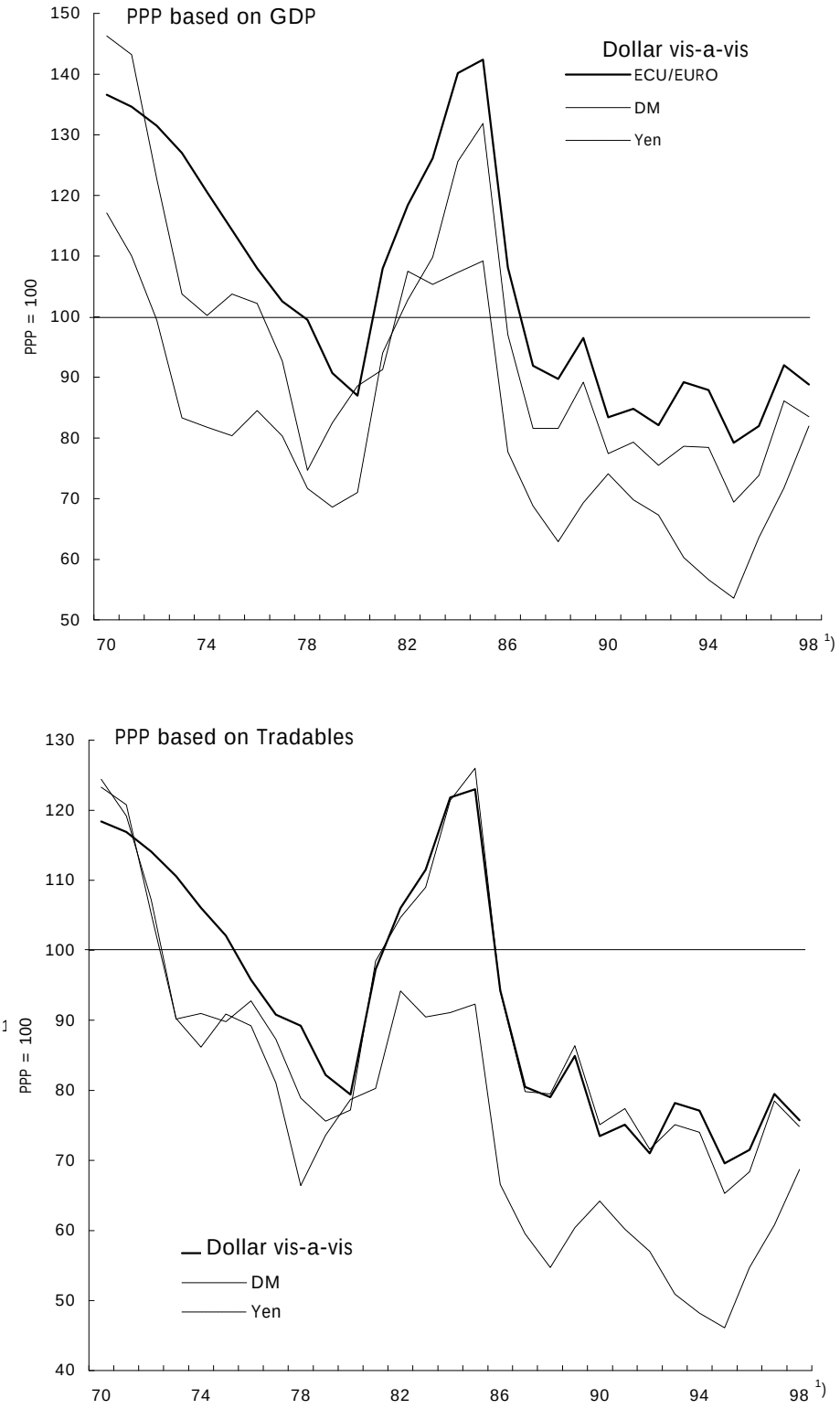
As in the early 1980s the (dollar) prices of non-oil commodities declined stronger than those of manufactures which contributed to the spill-over of the financial crisis to Latin America. Also the Russian crisis is indirectly related to the switch from a cheap to an expensive world currency: the dollar appreciation contributed to the fall in (dollar) prices for crude oil since 1996 which in turn shed more and more doubt on Russia's ability to keep the ruble exchange rate stable.

The relationship between the US and the rest of the world with respect to the double role of the dollar, is currently characterized by the following trilemma:

First, as the US national currency, the dollar has been heavily undervalued relative to the ECU and the yen since the mid-80s – the main reason for the continuous growth in US market share. This becomes particularly clear if one calculates the dollar PPP on the basis of an basket of internationally traded goods instead of a GDP basket; in the former case the undervaluation of the

Figure 9

## Dollar Exchange Rate und Purchasing Power Parity




1) Exchange rates for 1998: end of September.

dollar is by more than 10 percentage points higher than on the usual GDP basis. On a GDP basis, e.g., the dollar is currently (using the exchange rates from the end of September 1998) undervalued by roughly 10% vis-à-vis the ECU/EURO[6)], on a tradables basis, it is, however, undervalued by more than 20% (figure 9).

Second, as a world currency, it has already appreciated too far between 1995 and 1997 because, as we have seen, a rising dollar depresses dollar prices in world trade, in particular the prices of commodities; such a deflationary regime in turn strongly revalues dollar-denominated debts.

Third, the dollar's dual role enables the US to incur foreign (international) debt denominated in its national currency, and consequently without any reasonable limit. It has exploited this ability to an exorbitant degree for the last 15 years: US foreign debt has almost reached 1,500 bill. $, and is growing by some 150 bill. $ a year (about the same amount as the US current account deficit - figure 6). Thus, the world's richest economy is simultaneously its biggest debtor and the greatest net consumer of goods and services from the rest of the world. As the annual borrowing of the US by far exceeds its interest payments on existing debt, the creditor countries (primarily the EU and Japan) are effectively paying the interest themselves. In return for this and the real transfer of resources, they merely receive credit notes from the USA in ever-increasing value (the US follows Mr. Ponzi in its external finance and can do so only because it issues the world currency).[7)]

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[6)] The PPP for the EURO is calculated in the same way as the nominal EURO exchange rate is calculated, using the bilateral PPP data instead of the bilateral exchange rates. For a discussion of the persistent overvaluation of the EURO (ECU) see Schulmeister, 1997). The fact, that the dollar is generally more undervalued (less overvalued) on the basis of a tradables basket than on a GDP basket, is in line with theoretical expectations: the „richer" an economy, the more expensive are non traded services (restaurants, etc.) compared to internationally traded manufactures.

[7)] Ironically, the „external seigniorage" of the US was discussed in the economic literature mainly at a time, when its quantitative importance was relatively small, i.e., in the 1960s and 1970s (see e.g. Aliber, R.Z., 1964, Kirschen, 1974). In addition to that, these discussions only dealt with the „classical" seigniorage which stems from the difference in the yields of the financial assets of the „seigneur" relative to the yields of his liabilities (at constant exchange rates). The „new" seigniorage, however, stems from the change in the real value of the „seigneurs" liabilities through exchange rate changes and their impact on inflation. To put it concretely: if the US is ever to (partly) repay its foreign debt through persistent current account surpluses, this would require a strong dollar depreciation which would also depreciate the real value of the debt of the US (i.e., the assets of the rest of the world) through the related increase in the price level in the US. If, however, the US will never repay its debt, partly because the creditor countries - plagued by unemployment - do not want to accept a slow-down in the growth of their exports linked to a future net transfer of goods from the US, then the past net transfer of goods to the US (the counterpart of which is the US debt) will turn out to represent in effect gifts to the „seigneur".

## Towards a Systemic Therapy

It is everyday speculation on currency markets, to a great extent based on trend-following and thereby trend-strengthening „technical" trading systems (Taylor-Allen, 1992) that accumulates to the bubble-like upward and downward movements of the dollar over the medium run. The persistent changes in the nominal value of the world currency in turn change the distribution of income and wealth on a global scale – between exporters of raw materials and industrial goods on the one hand, and between creditor and debtor countries on the other. These often abrupt redistributions in conjunction with the inherent uncertainty about future exchange rate movements represent an important systemic reason for both, the slow-down in economic growth in the early 1970s as well as commodity price „shocks" and financial crises.

Because of this, the coming of the EURO should be taken as an opportunity to stabilize exchange rates between the three main currencies – the dollar, the EURO and the yen – analogously to EMU's forerunner, the EMS. This would be a first step towards a new world monetary system under which, instead of the national currency of the leading economy serving simultaneously as the world currency, the numeraire for stocks and flows in the global economy would be a basket of the main currencies (like the ECU in the EMS).

The coming of the EURO would make exchange rates much easier to stabilize within target zones in the transitional period, because there would only be two exchange rates left to stabilize – between the dollar, the EURO and the yen. Standard commodities such as raw materials, and also international financial stocks, should also be denominated not in dollars, but in a basket of the three main currencies. This would greatly reduce the incentive to realign exchange rates, and if it did come to a realignment, at least its price and redistribution effects on the global economy would be mitigated.

A systemic therapy of this kind may appear utopian today, but financial crises like that in East Asia or Latin America together with their consequences will make it increasingly clear that the monetary framework of the global economy needs radical restructuring. After all, we had come very close to creating a stable world monetary system once before: In negotiations on the new world monetary order, Keynes proposed the following in 1943/44 based on the experiences of the Great Depression (Keynes, 1980):

– No national currency serves as a world currency any more. Instead, a genuine world currency is created as a basket of the main national currencies (he called the basket currency 'Bancor').

– International settlements are handled at fixed exchange rates by a ‘Clearing Union’.

  Temporary disequilibria in the global economic goods and financing cycle are corrected by expansionary policies in the surplus country and not by belt-tightening measures in the deficit country, so that equilibrium is restored at a higher rather than a lower level of activity.

Keynes was unable to push through these proposals at Bretton Woods in 1944. The new world power, the US, wanted its own currency to take on the role of the world currency (as sterling had before). In view of the experience of the dollar standard and urged on by further financial crises, we may yet succeed, at a second attempt, in creating a global monetary system that complements the globalization of markets and enterprises.

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