

# **Weak Economy and Strong Currency – the Origins of the Strong Yen in the 1990's**

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## *Abstract*

During the 1990's the Japanese yen proved astonishingly strong despite the persisting recession. This paper tracks the origins of the high yen. It analyses the influence of interest rates, prices and foreign exchange policy on the yen-dollar exchange rate. It comes to the conclusion that real interest differentials can only explain short-term exchange rate changes. Since prices have been exerting their influence on the Japanese currency in the long run, the high yen is explained with deflation. The massive foreign exchange interventions of the 1990's were only able to stop the appreciation temporarily, if they were unsterilized, but they had no lasting effects.

Keywords: Yen, Yen/Dollar Exchange Rate, Foreign Exchange Intervention, Japan

JEL: F31

## 1 Introduction

Until the end of the 1980's Japan was perceived as one of the strongest world economic powers. Real economic growth was high, the share prices at the Tokyo Stock Exchange soared, and the Japanese export industry generated huge current account surpluses. The US economic hegemony seemed to be at its end and a Pax Nipponica was proclaimed.<sup>1</sup>

The Japanese yen, which had been appreciating steadily since the breakdown of the Bretton Woods System, was regarded as a symbol of Japan's economic success. While the dollar was traded for 360 yen in the early 1970's, at the end of 1988 the rate had reached a value of 126 yen per dollar. The *endaka*, the name for the high yen in Japan, supported the Japanese investors' acquisition of foreign assets. The purchasing of well-known US enterprises and real-estate fueled fears of colonization by Japanese money.

Since the burst of the bubble economy in December 1989, the perception of the Japanese economy has fundamentally changed. Despite massive fiscal spending there is no prospect for a sustained recovery. In September 2001 the Nikkei 225 fell below 10.000 yen; less than one fourth of its late 1980's value. Japanese enterprises and financial institutions are in financial distress and are being taken over by western competitors.

Only the Japanese currency seems to be widely unaffected by the economic slump. The yen proved astonishingly strong even in the economic downturn of the 1990's. In 1995 – when the real economic growth approached the zero percent mark – the yen reached its all-time high of 79 yen per dollar. At that time, only unsterilized foreign exchange intervention could reverse the trend. Nevertheless – despite the recent decline – the high yen persists, and represents a major obstacle to the recovery of the Japanese economy.

This paper tracks the origins of the high yen through the 1990's. Taking the long-term dimension of exchange rate movements into account, the development since 1980 will be scrutinized. Since most Japanese international trade and capital transactions are conducted in US-dollars, and thus the exchange rate versus the US currency has gained the most attention, the focus is on the yen-dollar exchange rate.<sup>2</sup>

The analysis is based on the two main fundamental theoretical concepts of exchange rate determination: one focusing on interest rates and international capital flows (chapter 2), the other focusing on prices (chapter 3). In chapter 4 the role of the foreign exchange policy and

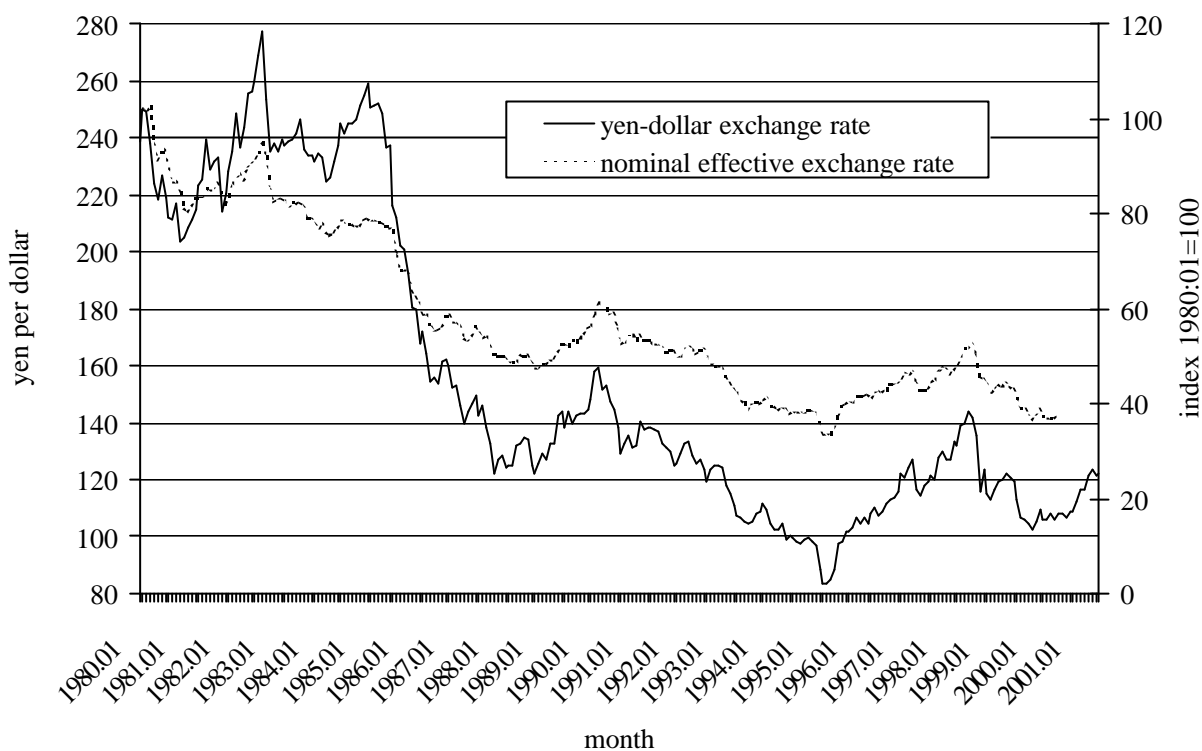
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<sup>1</sup> *Burstein* (1990), 45-51.

<sup>2</sup> The development of the nominal effective yen exchange rate is not significantly different from the yen-dollar rate (see Fig. 1).

monetary policy will be scrutinized. Prospects for the further development of the Japanese yen are given in chapter 5.

**Fig. 1: Yen Exchange Rate**



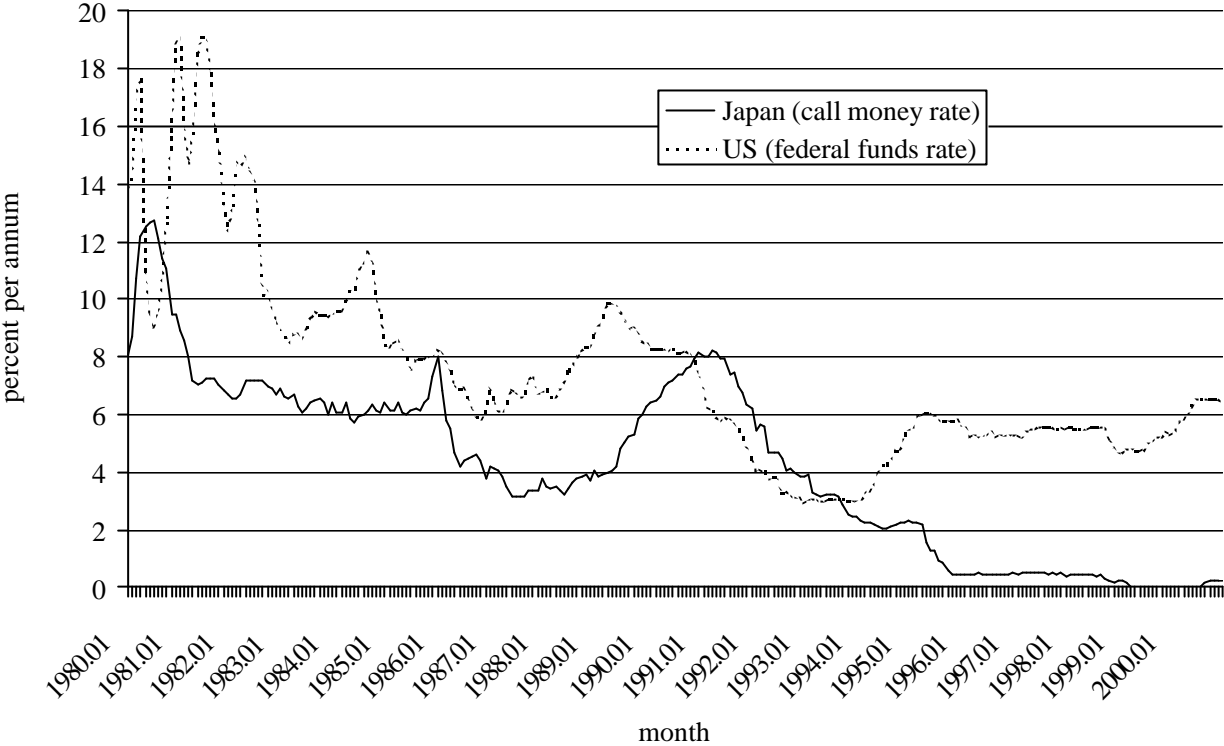
Source: *IMF*: IFS.

## 2 Interest Rates and International Capital Flows

The pervasive phenomenon of the 1990's yen exchange rate development is the combination of recession, net capital outflows, low interest rates and a strong yen. With the burst of the bubble economy, and the following economic downturn, short-term interest rates fell steadily (see Fig. 2) and net capital outflows increased (see Fig. 3). The rising financial account deficits were accompanied by a yen appreciation.

This development peaked in 1995, when the real economic growth fell to 0.3 percent, net capital outflows rose to a high of 122 billion dollars, the short-term interest rate reached the then record low of 2 percent, and the yen climbed to its all time high.

**Fig. 2: Short-term Interest Rate, Japan and US**



Source: IMF: IFS.

Although the yen appreciation was stopped in 1995/96 through foreign exchange intervention, and although later on the Asian and Japanese financial crisis (1997/98) triggered a further depreciation, the yen recovered in the late 1990's. In 1999 the yen surpassed the level of 105 yen per dollar, which was then regarded as the highest tolerable level for the Japanese export industry. The combination of low interest rates and a strong currency was a cause of major irritation. Observers spoke of a paradoxical constellation of weak economy and strong currency.<sup>3</sup>

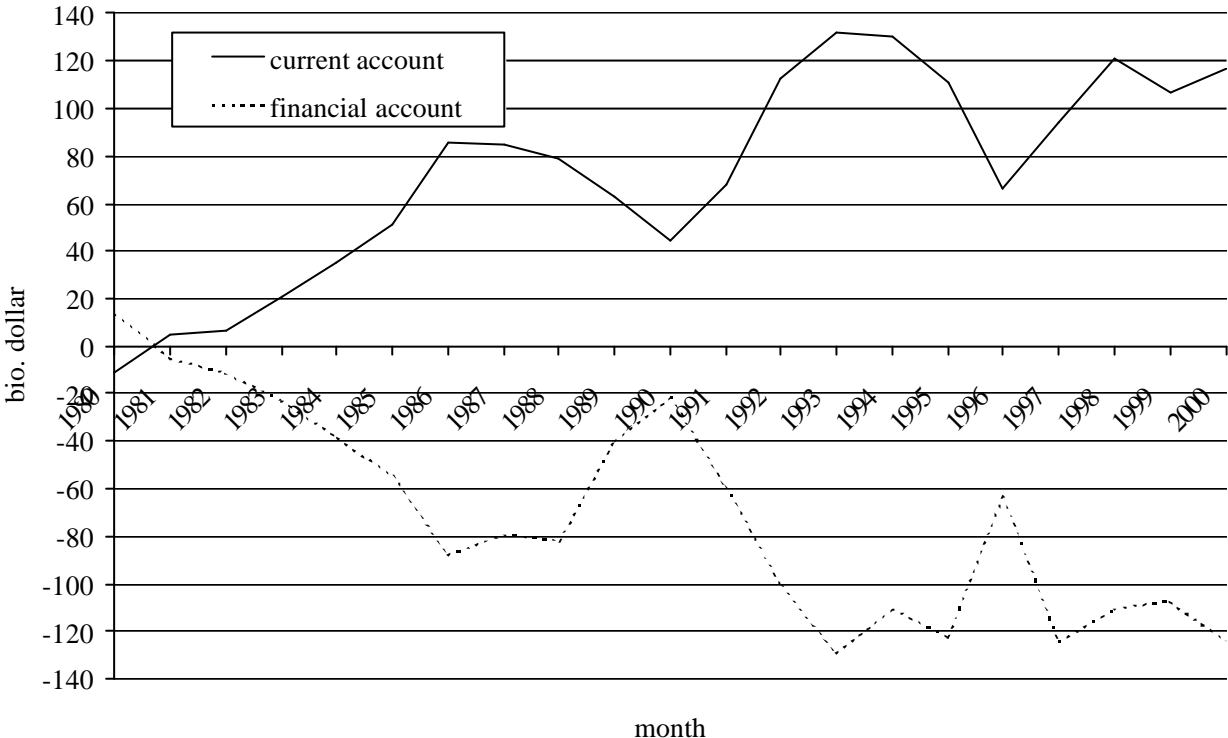
Indeed the popular open economy extension of the IS-LM Mundell-Fleming-model, which assumes that changes in real interest rates cause exchange rate alterations, fails to explain the *endaka* of the 1990's. Empirical investigations like that of *MacDonald* and *Nagayasu* only find weak support for a stable long-term relationship between the US-Japan real interest rate differentials and the yen-dollar exchange rate.<sup>4</sup>

<sup>3</sup> Weiler (1999), 20.

<sup>4</sup> MacDonald/Nagayasu (1998).

Assuming fixed prices, the Mundell-Fleming-framework can only explain short-term phenomena as the reaction of international capital flows to interest rate changes from the central bank.<sup>5</sup> To solve this contradiction *McKinnon* and *Ohno* point to the uncovered interest parity, which assumes that differing rates of return between national and international bonds are phased out by (expected) exchange rate changes. With the assumption of perfect capital markets, lower nominal interest rates in comparison to abroad indicate an expected appreciation.<sup>6</sup>

**Fig. 3: Japanese Current and Financial Account (Official Transactions Included).**



Source: *IMF*: IFS.

As depicted in Fig. 4, since the beginning of the 1980's the long-term nominal bond yield in Japan has been continuously lower than in the United States.<sup>7</sup> While the Mundell-Fleming-

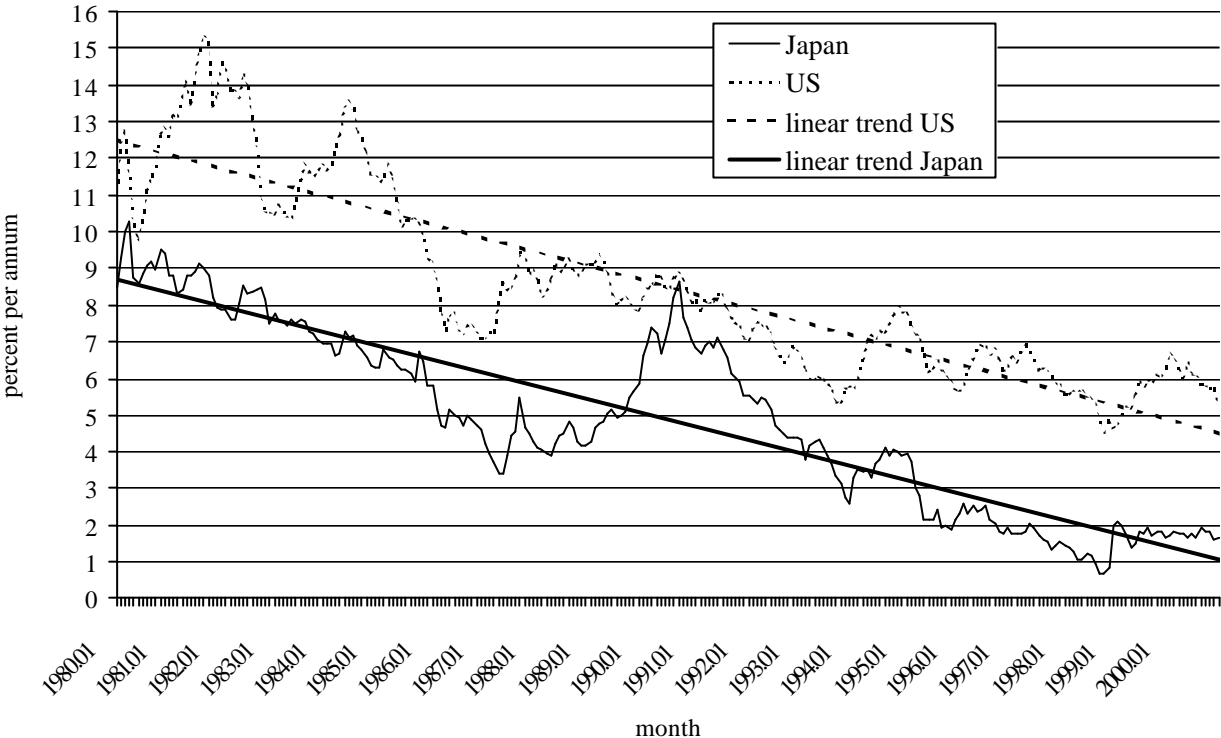
<sup>5</sup> It holds further for the early 1980's, when US-monetary policy was tightened to bring down inflation in the United States. US real interest rates increased (see Fig. 5), fueled by the dismantling of Japan's capital controls, Japanese money was transferred to the US (see Fig. 1), and the yen depreciated versus the dollar (see Fig. 1). The fact that the *enyasu* (the low yen) of the early 1980s continued for about five years contradicts the notion of a short-term relationship. Many authors argued, however, that the persisting yen depreciation was a speculative bubble, which kept the yen too long at an inadequately low value (*Modigliani* 1988, 419). This assumption is supported by the rapid appreciation after the Plaza-Agreement in September 1985.

<sup>6</sup> *McKinnon/Ohno* (2001), 294-297.

<sup>7</sup> The only exceptions are the early 1990's, when the Bank of Japan attempted to burst the bubble economy by a very tight monetary policy. The same is true for short-term money market interest rates (see Fig. 2). The

framework would predict capital outflows and a yen depreciation, the uncovered interest parity assumes an equilibrium: Japanese investors kept their money in Japan, because they expected an appreciation of their currency. The higher US interest rate compensated Japanese investors in the US for the losses caused by the appreciation of their currency.<sup>8</sup>

**Fig. 4: Long-term Interest Rates, Japan and US**



Source: IMF: IFS (10 year government bond yield).

Three conclusions can be drawn from the equilibrium between exchange rate changes and nominal interest differentials. First, the actual persistence of the interest differential between Japan and the US indicates that a further yen appreciation is expected.

Second, real interest rate differentials can only explain short-run exchange rate movements, because they tend to be phased out by arbitrage. As McKinnon and Ohno suggest – although difficult to measure – real interest rates in Japan must not necessarily be lower than

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unchanged expectations are represented by an unchanged distance between the linear trends of the long-term interest rates of the two countries (see Fig. 4).

<sup>8</sup> Authors who argue that Japanese investors in the United States have suffered huge losses through their capital exports, ignore the uncovered interest parity. For instance, Richard Koo, Chief economist at the Nomura Research Institute, argues that Japanese investors have lost 35 trillion yen through the yen appreciation between 1980 and 1993, because they did not change their profits from the current account surpluses into yen (Koo 1995, 30-33).

in the United States.<sup>9</sup> During the last two decades the real interest rate differential between Japan and the United States has been rather small (see Fig. 5). This indicates a high capital mobility, which equalizes real returns between Japanese and US bonds.

**Fig. 5: Real Long-term Interest Rates, Japan and US**



Source: IMF: IFS. Real interest rates calculated on the basis of long-term government bond yields and wholesale prices with a five years moving average.

Third, if real interests are assumed to be equal, prices seem to exert their influence on the exchange rates in the long run. According to Irving Fisher, nominal interest rates consist of the real interest rate plus a mark-up for (expected) inflation.<sup>10</sup> If real interest rates adjust between two countries, nominal interest differentials and thus different inflation rates would be counter-balanced by the exchange rate alterations.

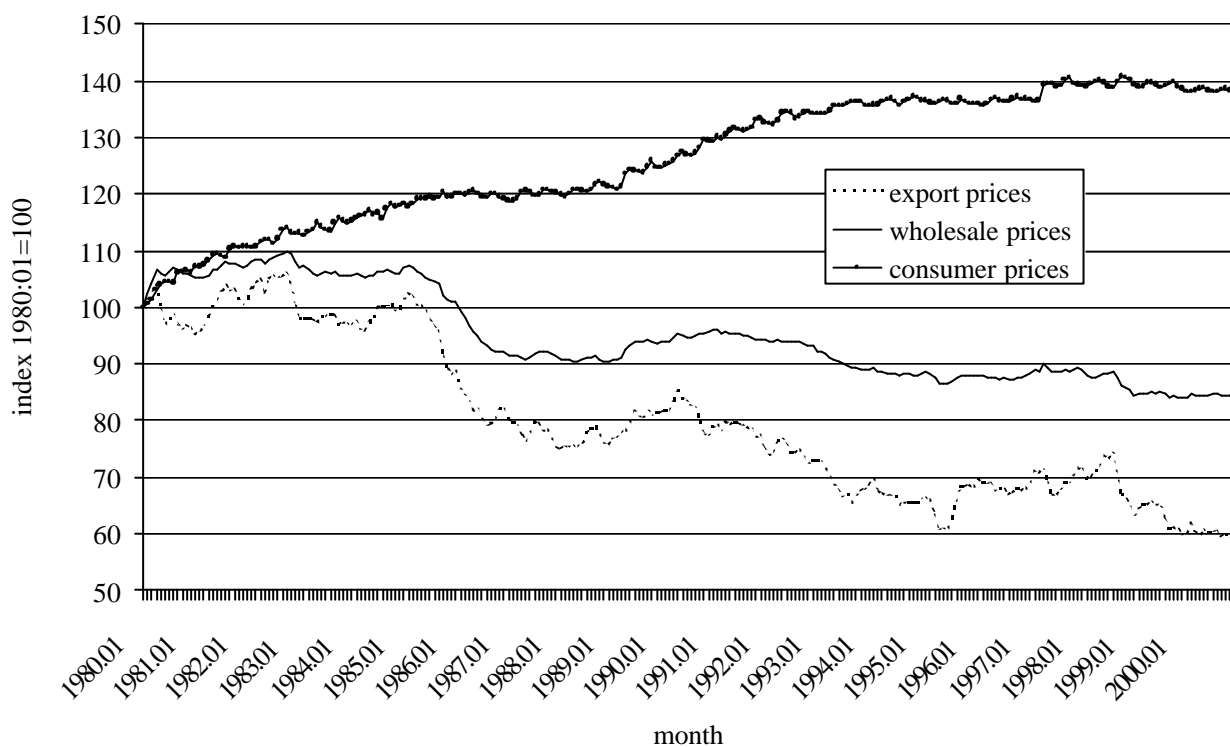
Therefore, the uncovered interest rate parity points to the role of prices for exchange rate determination, which is analyzed in the following chapter.

<sup>9</sup> McKinnon/Ohno (1997), 99.  
<sup>10</sup> The risk premium is assumed to be zero.

### 3 Prices

The recession of the 1990's is not only characterized by low interest rates, but also by low inflation. As depicted in Fig. 6, export and wholesale prices continued to fall during the 1990's. Consumer price inflation slowed as well and turned negative at the end of the decade. This general deflation not only posed the question as to whether inflation-targeting could stop the downward drift of prices, and thus force the Japanese to consume.<sup>11</sup> The influence of prices on the exchange rate has to be analyzed as well.

**Fig. 6: Japanese Export, Wholesale and Consumer Prices**



Source: IMF: IFS.

In general, low inflation (in comparison to abroad) indicates an appreciation. The basic theoretical concept on the exchange rate and prices is that of the purchasing power parity (PPP), which goes back to *Cassel*.<sup>12</sup> The relative version of PPP states that differences in the inflation rates of two countries equal the changes in the exchange rate of the two currencies.

Although most empirical tests of relative PPP come to the conclusion that “*PPP is not a short-run relationship*” and “*price level movements do not begin to offset exchange rate*

<sup>11</sup> *Krugman* (1998).

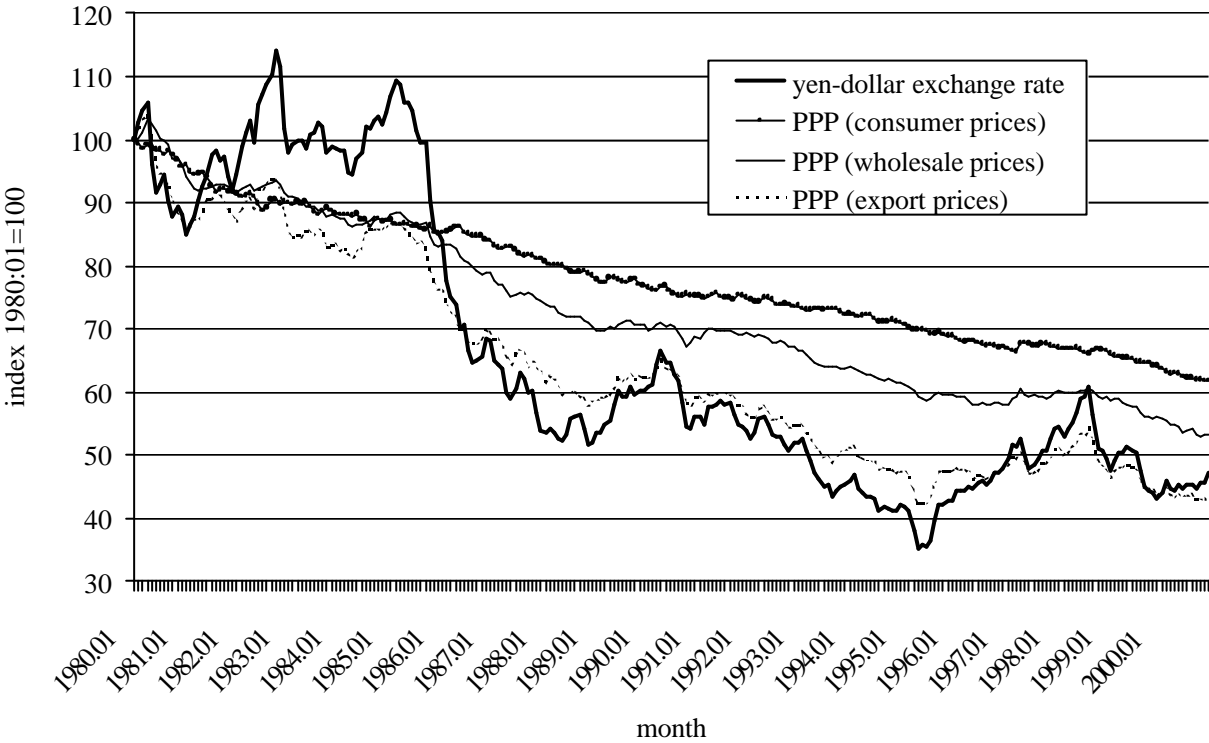
<sup>12</sup> *Cassel* (1916).



swings on a monthly or even annual basis”,<sup>13</sup> there is evidence that relative PPP holds for the yen-dollar exchange rate even in the short run, if exclusively based on traded goods prices.

The yen-dollar exchange rate changes can be approximated by inflation differentials between Japan and the US depending on the underlying price concept (see Fig. 7). While consumer and wholesale prices can at most explain the exchange rate trend, export price based PPP and the yen-dollar exchange rate move parallel. A significant correlation between relative export prices and the yen-dollar exchange rate was proven by *Schnabl* for the period between 1980 and 1999 on the basis of annual and quarterly data.<sup>14</sup>

**Fig. 7: Yen-Dollar Exchange Rate and PPP**



Source: *IMF*: IFS.

To explain why particularly relative export prices approximate the yen-dollar exchange rate so well, the pricing behavior of Japanese export enterprises is of special interest. According to *Marston* and *Menon* Japanese exporters tend to lower prices in reaction to an appreciation.<sup>15</sup> While prices were kept by and large stable in the domestic markets, they were reduced

<sup>13</sup> *Froot/Rogoff* (1995), 1648.  
<sup>14</sup> *Schnabl* (2001).  
<sup>15</sup> *Marston* (1990); *Menon* (1995).

in the international markets to avoid a loss of international market share (*pricing to the market*).

*Athukorala* and *Menon* identify this incomplete pass through of exchange rate movements to prices in international markets as an “*in-built feature*” of Japanese export pricing.<sup>16</sup> *Hung*, *Kim* and *Ohno*’s study of export pricing compares several countries and comes to the conclusion that this imperfect Japanese shifting behavior is unique under industrial countries.<sup>17</sup> While German and US competitors have steadily augmented their export prices, Japanese enterprises reduced them.<sup>18</sup>

Losses due to imperfect shifting behavior in reaction to an appreciation can be compensated by profit margins in the short run. If – as in the case of Japan – appreciation continues over a long period, only cost reductions can maintain the original rate of return. As attributed by *Athukorala* and *Menon* as well as *Fukuhara*, cost reductions and productivity gains have been crucial in coping with the appreciation.<sup>19</sup>

The break-even point of Japanese exports, which gives an average yen-dollar rate at which exports are still profitable and which functions as an indicator for productivity gains, supports this assumption: it fell when the yen gained in value (see Fig. 8). This is not only true for the period after the Plaza-Agreement, but also the 1990’s. The recession in combination with the high yen forced the exporters to cut costs in order to stay competitive.

In contrast to the high dynamics of the Japanese export sector, productivity increases have been slow in the domestic economy. As pointed out by the *Economic Planning Agency* and the *McKinsey Global Institute*, regulation is pervasive in a large number of sectors such as agriculture, mining, construction, finance, transport, communication, and distribution.<sup>20</sup> These sectors are insulated from international competition through formal and informal trade barriers, which allows consumer prices to be steadily raised.

Despite the slower upward trend of the consumer price index<sup>21</sup> in the 1990’s, the relative increase versus the export prices persisted. Therefore the observation of *De Gregorio*, *Gio-*

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<sup>16</sup> *Athukorala/Menon* (1994), 280.

<sup>17</sup> *Hung/Kim/Ohno* (1993).

<sup>18</sup> *Ohno* (1990, 296-298) explains the different pass through behaviors of Japanese and US enterprises with different time frames for profit orientation. The profit orientation is assumed to be relatively long term for the Japanese enterprises in comparison with US companies. Japanese companies put up with short-term profit losses during exchange rate fluctuations in order to stabilize the market share, which promises higher earnings in the long run. US companies tend towards a complete pass through to avoid losses in the short run.

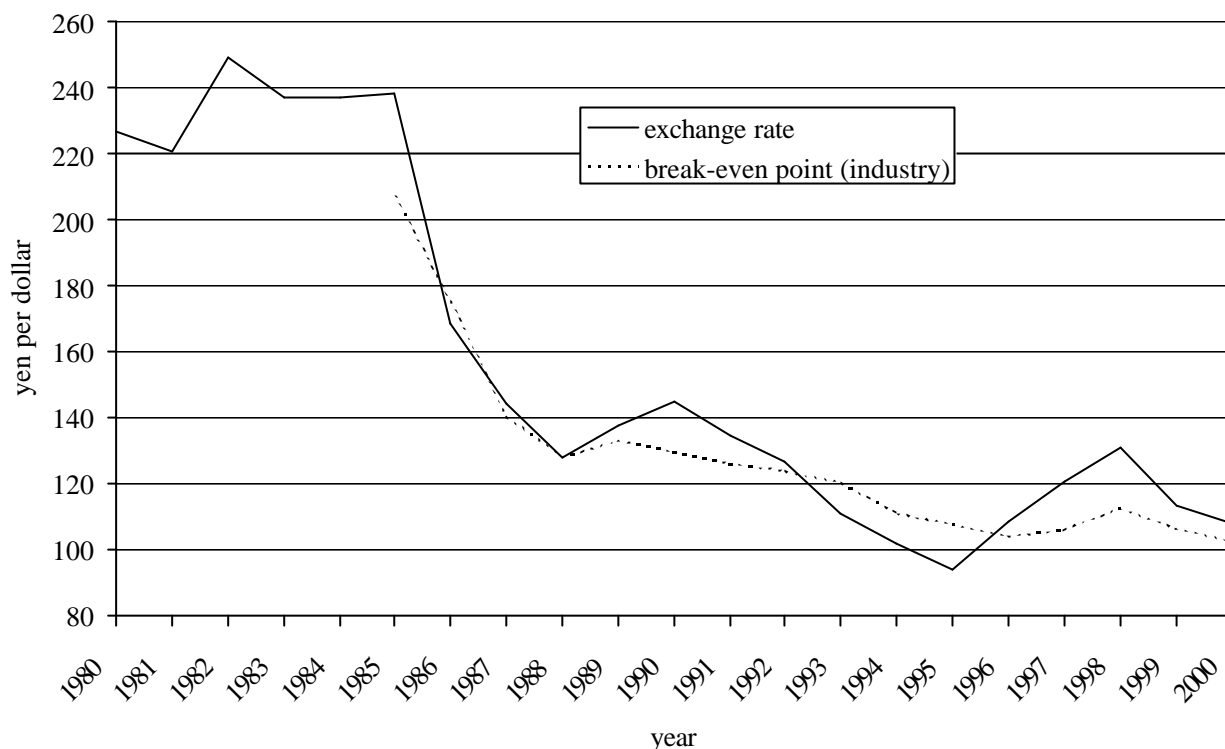
<sup>19</sup> *Athukorala/Menon* (1994), 272-273; *Fukuhara* (1996), 124-130.

<sup>20</sup> *Economic Planning Agency* (1994); *McKinsey Global Institute* (2000).

<sup>21</sup> The consumer price index contains mostly nontraded traded goods.

vannini and Wolf that the discrepancy between traded and nontraded goods prices is particularly large in Japan,<sup>22</sup> can be assumed to hold true for the 1990's as well.

**Fig. 8: Break-even Point of the Japanese Export Industry**



Source: IMF: IFS and Economic and Social Research Institute. The break-even point is published annually by the Economic and Social Research Institute (former Economic Planning Agency) on the basis of surveys within the Japanese export industry.

Hsieh, Marston and Ceglowski argue that strongly differing price and productivity development in the Japanese traded and nontraded goods sectors leads to the Balassa's and Samuelson's productivity differential model as a (long-term) explanation approach for the yen exchange rate.<sup>23</sup> Relative price reductions and productivity increases in the traded goods sector in comparison to the nontraded goods sector are assumed to cause the departure of the exchange rate from (consumer price based) PPP (see Fig. 7).<sup>24</sup>

Marston concludes that this productivity gap between the traded and nontraded goods sector caused the need for (real) exchange rate appreciation.<sup>25</sup> In this sense, the long-term appreciation trend of the Japanese yen is rooted in the export enterprises' decision to increase pro-

<sup>22</sup> De Gregorio/Giovannini/Wolf (1994).

<sup>23</sup> Hsieh (1982); Marston (1987); Ceglowski (1996).

<sup>24</sup> For further explanation of the Balassa-Samuelson approach see Dornbusch (1987), 1078-1079.

<sup>25</sup> Marston (1987), 92-93.

ductivity and lower prices.<sup>26</sup> The yen remained strong in the 1990's, because restructuring and price reductions continued.

Thus, the origins of the *endaka* are located in real sector, which raises the question of the role of interest rates in the determination of the exchange rate. In this context two relationships are possible. First, as capital flows have reached a very high mobility, there is no doubt that exchange rates are driven by international capital. This implies that capital movements cause an appreciation and prices just adapt. In the late 1990's, the decision of Japanese investors to repatriate capital has brought the yen under appreciation pressure and Japanese enterprises had to lower prices, if they wanted to keep their market share abroad.

Second, as *McKinnon* and *Ohno* put forth, if the exchange is a forward variable that anticipates future changes in fundamentals, the true causality is again from prices to the exchange rate, although the exchange rate alteration precedes the price changes.<sup>27</sup>

#### 4 Foreign Exchange Market Intervention and Monetary Policy

The fact that prices have to be regarded as a major determinant of the yen exchange leads to the question of how foreign exchange intervention and monetary policy have influenced the value of the Japanese currency. In general, foreign exchange intervention and monetary policy are closely linked. The strong yen, which slowed the already weak domestic activity further during the 1990's, triggered massive foreign exchange intervention (see Fig. 9).<sup>28</sup> Since every official purchase and sale of foreign currency affects the monetary base, monetary policy was also affected by exchange rate considerations.

Given the continuous upward trend of the yen, Japanese exchange rate policy has been traditionally directed to resist the *endaka*. The first anti-appreciation intervention goes back to the break-down of the Bretton Woods System. When President Nixon announced in August 1971 that he favored a flexible exchange rate between the dollar and the yen, the Japanese

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<sup>26</sup> Even if there is strong evidence that the exchange rate had major impact on the pricing behavior of the Japanese export industry, the reverse causality is also possible. Granger causality tests by *Schnabl* and *Baur* (2001) indicate that not only appreciation caused the price reductions of Japanese export enterprises, but also that lower export prices put a floor under the yen appreciation and thus reinforced the *endaka*. This points to a (vicious) circle of appreciation and price reductions. When Japanese export enterprises tried to cope with the high yen, they initiated a new round of appreciation.

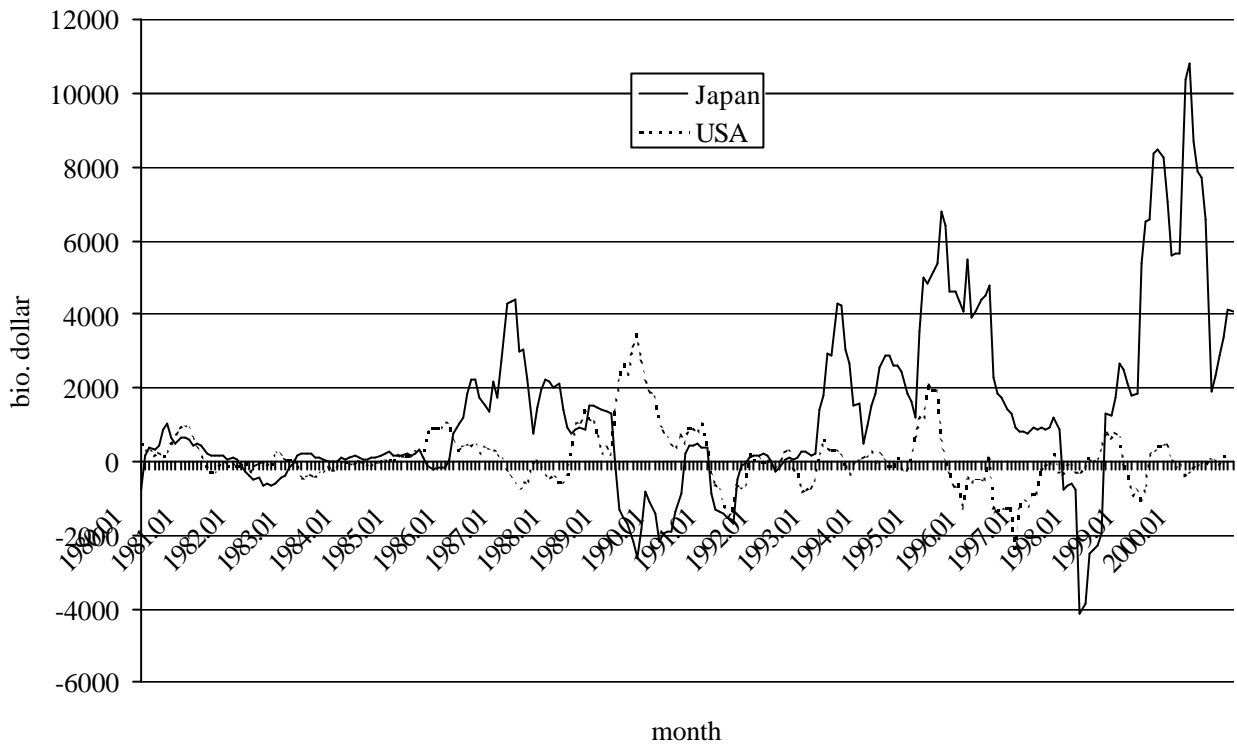
A causality from prices to the exchange rate would further imply that sinking export and import prices contributed to the 1990s deflation.

<sup>27</sup> *McKinnon/Ohno* (1997), 181.

<sup>28</sup> Since the Japanese central bank does not publish intervention data since 1980, changes in official foreign reserves are used as approximation.

monetary authorities felt a „moral obligation” to banks and enterprises, and decided to buy dollars at the 360 yen parity.<sup>29</sup>

**Fig. 9: Changes in Official Foreign Exchange Reserves, Japan and US**



Source: *IMF*: IFS. 6-month moving average.

The motivation to lean against an appreciation has since been larger than to intervene against a depreciation.<sup>30</sup> The preference of the Japanese government for a weak yen can be explained with the traditionally strong ties between the government and big business as well as with the government’s concerns about economic growth.

According to *Funabashi*, the pressure from industry has been the major source of Japanese exchange rate policy.<sup>31</sup> *Cargill, Hutchison* and *Ito* prove on the basis of a model of political business cycles, that there is a direct interdependency between the re-election of government party members and output.<sup>32</sup>

<sup>29</sup> *Henning* (1994), 123-124.

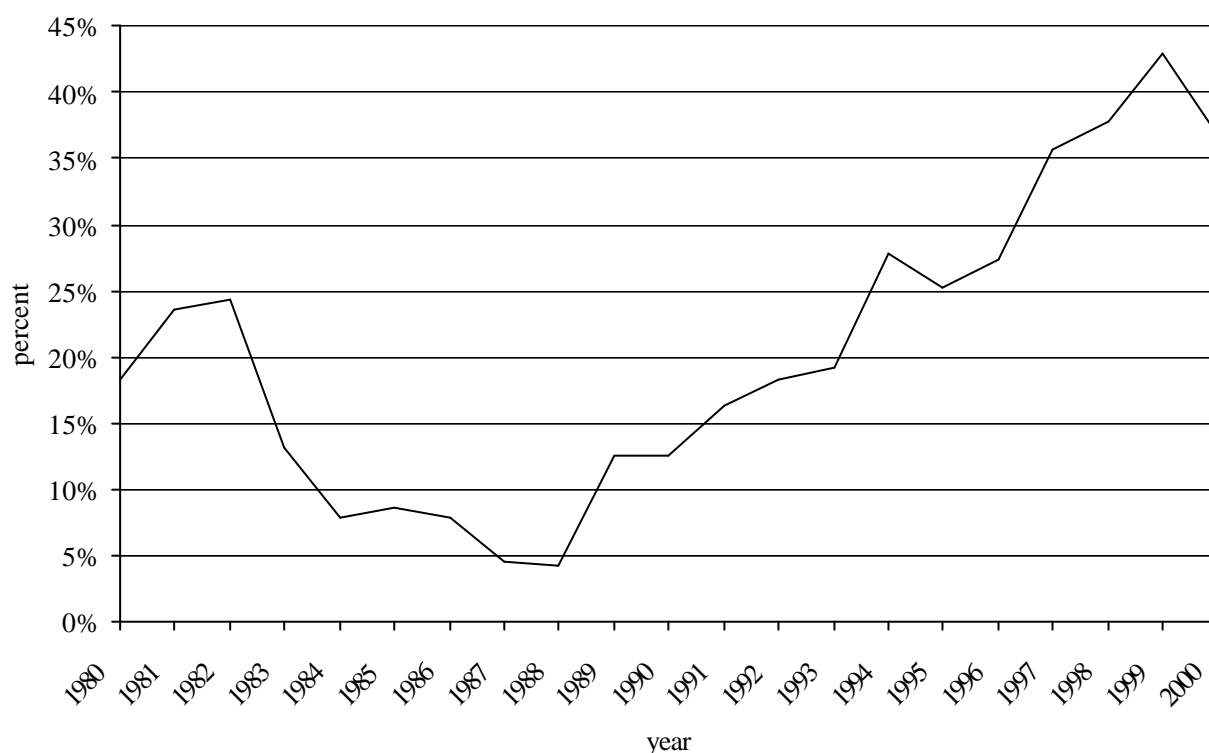
<sup>30</sup> *Ramaswamy/Samiei*(2000), 8.

<sup>31</sup> *Funabashi* (1988), 101-104.

<sup>32</sup> *Cargill/Hutchison/Ito* (1997), 146-170.

As stressed by *Johnson*, fostering the export industry has been traditionally regarded as pivotal for economic growth,<sup>33</sup> symbolized by commonly used terms like ‘*export-led growth*’ (*gaiju shudôgata seichô*) and ‘*high-yen-induced recession*’ (*endaka fukyô*). The contribution of exports to economic growth has even dramatically increased during the economic slump of the 1990’s (see Fig. 10), which explains the Ministry of Finance’s increasing tendency to foreign exchange intervention (see Fig. 9).<sup>34</sup>

**Fig. 10: Contribution of Exports to Japanese Real Economic Growth**



Source: *Economic Planning Agency: Annual Report on National Accounts*.

Sterilized foreign exchange operations have only short-term effects, however, because they leave interest rates unchanged.<sup>35</sup> In order to avoid disturbances on the money market, and to keep the short-term interest rate as target of the monetary policy stable, in countries with flexible exchange rates the monetary effects of foreign exchange market intervention are typi-

<sup>33</sup> *Johnson* (1982).

<sup>34</sup> In Japan the finance ministry is exclusively responsible for foreign exchange intervention. According to the Foreign Exchange and Foreign Trade Law (*gaikoku kawase oyobi gaikoku bôeki kanri hô*), Article 7, Paragraph 3 the Ministry of Finance is authorised to decide on foreign exchange market interventions independently in order to stabilise the exchange rate of the Japanese currency. In the case of intervention, the Bank of Japan acts solely as an agent (Article 36 and Article 40, Paragraph 2, Bank of Japan Law). The Bank of Japan buys and sells foreign currency on the account of the Ministry of Finance.

<sup>35</sup> *McKinnon* (1987), 163.

cally offset by open market operations (sterilization).<sup>36</sup> Since no international capital movements are induced, there is no lasting influence on the exchange rate.

Although the Bank of Japan generally declines to provide information about its sterilization policy, *Takagi* proves for the period from 1973 to 1989 that the Bank of Japan absorbed excess liquidity after foreign exchange interventions (at least partially).<sup>37</sup> Data of the Bank of Japan indicate that this strategy was continued in the 1990's.<sup>38</sup>

Since the sterilization policy contradicts the foreign exchange intervention, a basic conflict between the Bank of Japan and the Ministry of Finance arises. This became apparent in autumn 1999. When the growth of the Japanese economy did not recover and the strong yen put pressure on the Japanese exports, the Ministry of Finance urged the Bank of Japan to stop its sterilization operations.<sup>39</sup> The Bank of Japan resisted by saying that the exchange rate was not the goal of its monetary policy.<sup>40</sup>

The 1999 sterilization conflict has raised the question of central bank independence. Until 1998 the Bank of Japan was under the supervision of the Ministry of Finance.<sup>41</sup> Unsurprisingly, the degree of independence of the Japanese central bank has been regarded as low.<sup>42</sup> Foreign exchange interventions were often followed by interest rate changes (unsterilized intervention).<sup>43</sup>

Estimations of the Bank of Japan's monetary policy reaction found that the exchange rate has been a major determinant of Japanese monetary policy.<sup>44</sup> Even though the Bank of Japan became officially independent in April 1998,<sup>45</sup> there is strong evidence that Japanese monetary policy is still influenced by exchange rate considerations for three reasons.

First, the Ministry of Finance continues to exert influence on the central bank on an informal basis. Second, former managers of industrial enterprises are directly represented on the

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<sup>36</sup> *Baillie/Osterberg* (1997), 910.

<sup>37</sup> *Takagi* (1991).

<sup>38</sup> *Bank of Japan Research and Statistics Department* (2000).

<sup>39</sup> *Tett* (1999).

<sup>40</sup> *Bank of Japan* (1999).

<sup>41</sup> Article 42 of the Japanese Central Bank Law stated: „*The Bank of Japan shall be under supervision of the competent Minister.*“

<sup>42</sup> *Grilli/Masciandaro/Tabellini* 1991.

<sup>43</sup> *Henning* (1994), 121-175.

<sup>44</sup> *Takagi* (1991); *McKinnon/Ohno* (1997, 178-200); *Ueda* (1997).

<sup>45</sup> Article 3 of the revised Bank of Japan Law now says: „*The Bank of Japan's autonomy regarding currency and monetary control shall be respected.*“

Bank of Japan board.<sup>46</sup> Third, there is significant pressure on Japanese monetary and exchange rate policy from abroad.<sup>47</sup>

All together there is strong evidence that the Bank of Japan repeatedly changed interest rates to redirect the exchange rate. As depicted in Fig. 2, in all major appreciation phases (1986-88, 1990-96 and 1999/00) the short-term interest rate as the target of monetary policy<sup>48</sup> declined considerably. In all cases sooner or later the appreciation could be halted (1999/00) or even reversed (1987/88, 1995/96) and the pressure on the Japanese export industry was lowered.

The impact of the Japanese exchange rate policy in the 1990's on the yen-dollar exchange rate can be summarized as follows. In the short-run, sterilized intervention has – by definition – no lasting influence on the exchange rate. Sterilized intervention, such as in the early 1990's or during the Japanese financial crisis in 1998, consequently had no measurable effect on the exchange rate. Instead transaction costs on foreign exchange markets can be assumed to have risen because of higher volatility.

Second, if monetary authorities wanted a sustained effect on the exchange rate, they had to change interest rates. For this reason the Ministry of Finance had to break the resistance of the Bank of Japan against a monetary expansion. When money supply was expanded, for instance in 1995/96, the appreciation could be halted.

Third, the Bank of Japan's discretionary monetary policy had serious side effects. When the Bank of Japan expanded the money supply to stop the drastic appreciation in 1987/88, this also initiated a speculation boom in the real estate and asset markets.<sup>49</sup> With the burst of the bubble the Japanese economy got caught in the deflation spiral of 1990's.

The interest cuts of 1995/96 not only stopped the appreciation of the yen and brought the Japanese economy back on the path of growth, but also initiated the Asian crisis (1997/98). The economic expansion in the domestic market lowered the outflow of capital, which had fueled the boom in East Asia. The depreciation of the yen eroded the international competitiveness of the East Asian countries, which had pegged their currencies to the dollar. As ex-

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<sup>46</sup> Masaru *Hayami* from Nissho Iwai, Toshio *Miki* from Nippon Steel and Nobuyuki *Nakahara* from Toa Nenryo. The Board consists of nine members. Particularly *Nakahara* stands out in the Bank of Japan-minutes as an extreme supporter of monetary expansion.

<sup>47</sup> *Ueda* (1997), 265. The foreign pressure on Japanese economic policy has a long tradition and is called in Japanese *gaiatsu*. A good example for US pressure on Japanese monetary policy is the paper of *Posen* (2001).

<sup>48</sup> In 1999/00 only the monetary base could be expanded, because money market interest rates already had declined to zero percent (see Fig. 11). In March 2001 the Bank of Japan decided to shift from the uncollateralized overnight call rate as the main operating target of monetary policy to the outstanding balance of the current accounts at the Bank of Japan (*Bank of Japan* (2001), 1).

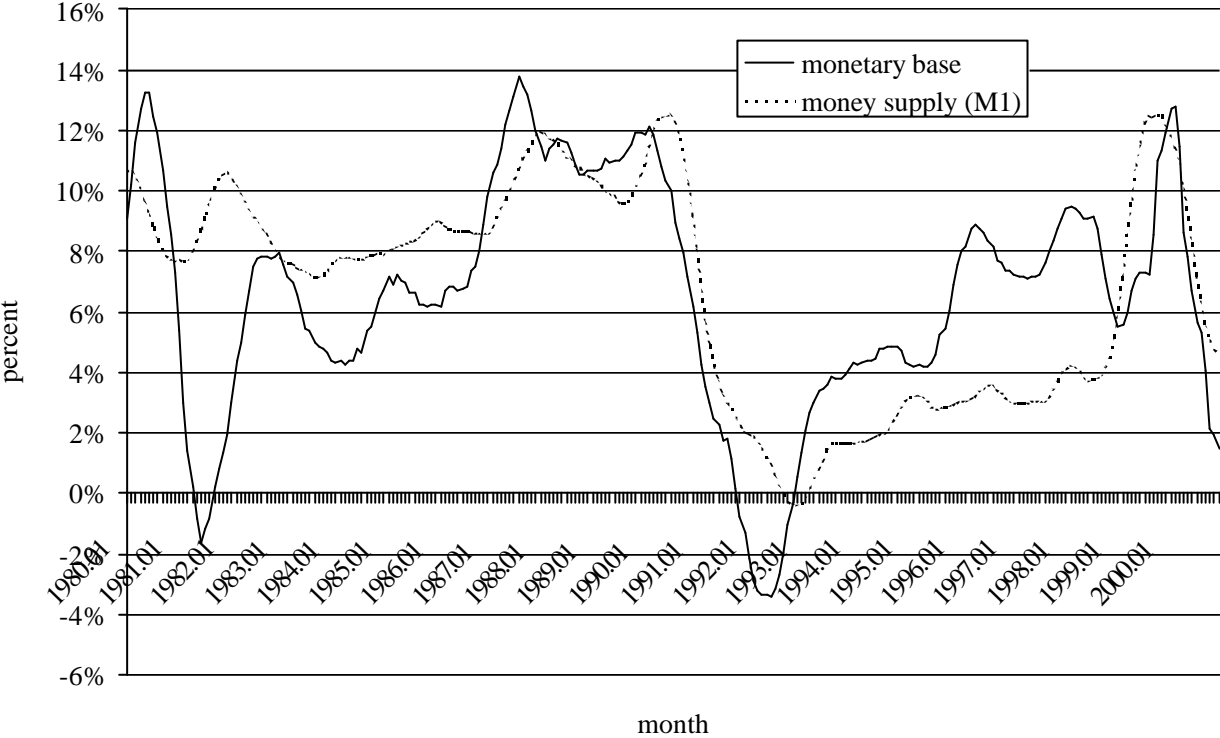
<sup>49</sup> For more information on the bubble economy see Noguchi (1996).



pansion in Asia was slowed down, international capital was further withdrawn and the crisis came along.<sup>50</sup>

The impacts of the 1999/00 monetary expansion are still unclear. As depicted in Fig. 9 and Fig. 11, in the years 1999/00 the Bank of Japan not only bought a large amount of dollars to resist the appreciation. It also tolerated an extreme rise in money supply (M1) and monetary base. Although prices did not increase because of the negative economic outlook of the Japanese economy, the question remains as to whether the growth in money supply has created an inflationary potential for the time when the Japanese economy recovers.

**Fig. 11: Monetary Base and Money Supply (M1)**



Source: Bank of Japan: Economic and Financial Data on CD-ROM. Change rate versus previous year month. 6-month moving average.

All in all, the huge volume of foreign exchange intervention, which took place during the 1990's, could not reverse the general upward trend in the yen exchange rate. It had mid-term effects at most, if the monetary base was altered, but with the high risks for economic stability. In the long-run the yen remained strong despite the massive intervention.

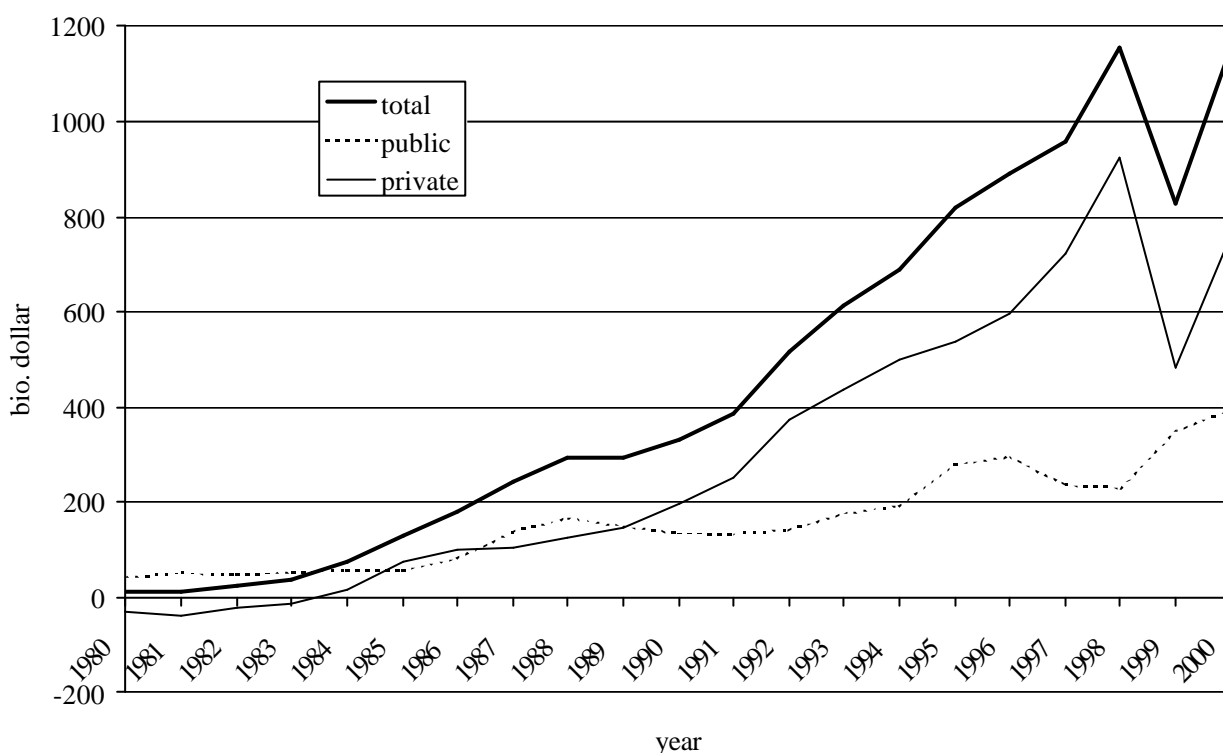
<sup>50</sup> Schnabl (2000).

## 5 Prospects for the Yen Exchange Rate

Due to the numerous determinants it is in general difficult to make any predictions about exchange rates. This is – of course – also true for the Japanese yen.

As is often argued, the further development of the yen depends on the prospects of the Japanese economy, which are currently hard to predict. Although the new Koizumi government has demonstrated the willingness for the necessary economic reforms, the victory of the LDP in the recent elections has triggered further losses on the Japanese stock market and a depreciation of the Japanese currency.

**Fig. 12: Japanese Net International Investment Position**



Source: *IMF*: IFS.

In the short run international capital flows are the major determinant of the exchange rate. If the disappointment about the Japanese economy further grows, capital outflows and thus, according to the Mundell-Fleming framework, a further depreciation could be the consequence.

But even if the Nikkei continues to fall, this does not mean that a further depreciation can be expected. An aggravation of the bad debt problem could also cause an appreciation. Based on sustained current account surpluses and financial account deficits Japanese investors have

accumulated the world largest net foreign assets (see Fig. 12). If Japanese financial institutions decided to repatriate capital – for instance to cover the losses because of bad debts – this would raise the value of the Japanese currency.

A first glance, what could happen in such a case was shown in 1999, when private financial institutions transferred huge amounts of capital back to Japan and the yen came under strong appreciation pressure. From this point of view, Japan's international assets constitute a huge appreciation potential.

Further, monetary policy and prices exert their influence on the exchange rate in the long-run. In this case too, forecasts are difficult. If the recession in Japan continues, deflation will persist. According to PPP, a strong yen is to be expected, which would further enforce deflation. The same is true if the Japanese government takes the necessary steps for deregulation. The dismantling of the pervasive competition restraints would trigger price adjustments and therefore support deflation and appreciation.

On the other hand, as outlined in chapter 4, the expansionary monetary policy of the second half of the 1990's has inflated the monetary base and money supply (M1). Due to negative economic prospects the monetary expansion was not transmitted to the broader monetary aggregates such as M2 or M3 and therefore there was no respective impact on the price level. When the Japanese economy starts growing again, the monetary transmission process can be assumed to be restored. Then the monetary overhang could be the origin of accelerated inflation. This would bring the yen under depreciation pressure.

Finally, the role of monetary and foreign exchange policy is uncertain. During the 1990's, the Ministry of Finance was determined to resist the yen appreciation. The official foreign exchange purchases of 1999/00 were unprecedented. In practice the foreign currency, which was converted into yen by private investors, was purchased by the government and reconverted into dollars. As long as the Japanese economy is weak, this attitude will probably persist.

The expansionary monetary policy, which is the direct consequence of unsterilized foreign exchange purchases, could hollow out the value of the yen, however. In the late the 1990's, the Bank of Japan was urged to fight the recession with ample liquidity. While monetary growth temporarily slowed in late 2000, in April 2001 the Japanese central bank was forced to return to its zero interest rate policy and growth rates in monetary base and money supply soared again. If – which seems to be very probable by now – the expansionary monetary policy is continued, and if – which seems to be less probable by now – money growth is transmitted to more inflation, the yen will depreciate.

All in all, the further development of the yen is as unsure as the future of the Japanese economy as a whole. The only thing, which seems to be sure, is that as long as the interest gap between Japan and the US persists, a sustained depreciation can't be expected.

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