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**Deutschmark Appreciation and Structural Change —
An Overview of Economic Structural Reports**

by
Klaus-Dieter Schmidt



Institut für Weltwirtschaft an der Universität Kiel
The Kiel Institute of World Economics

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Klaus-Dieter Schmidt
January 1997

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Abstract

Changes in exchange rates have become a prominent issue in Germany and Japan — due to the enormous appreciation of the Deutschmark and the Yen. Conventional wisdom suggests that economic activity will be negatively affected if a currency is going through a phase of appreciation.

The paper emphasizes the impact of the strong Deutschmark appreciation on structural change and economic growth in Germany in the 1970s and 1980s. It re-examines the diverging arguments supported in the so-called "Structural Reports" of the five leading economic research institutes.

The paper concentrates on three questions:

- first, which was the theoretical background of the discussion,
- second, which were the controversial issues, and
- third, which could be the lessons for Japan's economic policy drawn from the reports?

The author comes to the conclusion that the strong Deutschmark has positively affected the German economy as it has increased the pressure to adjust. However, while manufacturing industries were flexible enough to reduce their staff quickly, service industries were too inflexible to provide relief for the labour market. In this respect, Germany can hardly be a model for Japan. In realizing economic reforms, it has made only little progress (F1–3, L6–9).

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"While in the long run it is useful to view the exchange rate as the relative price of national output, in the short run it is more useful to view it as the relative price of national monies"

William H. Branson (Cited from Siebert [1994: 264]).

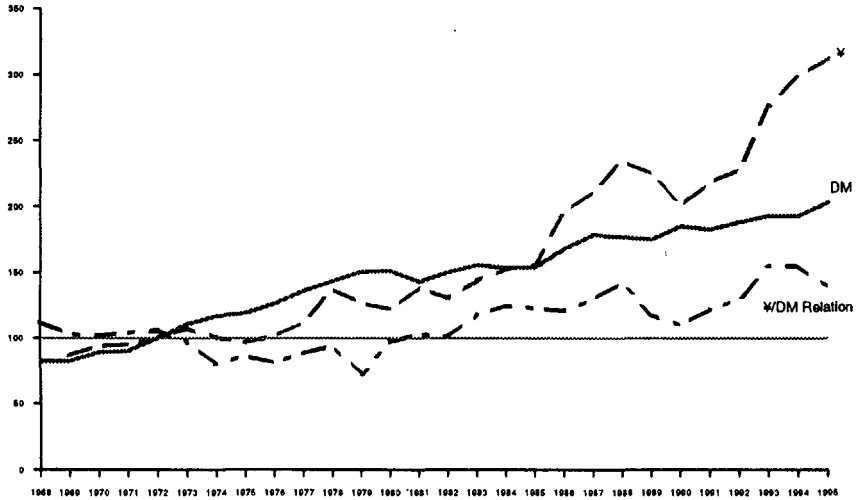
I Introduction: Structural Change and Structural Reports¹

Changes in exchange rates have become a prominent issue in Germany and Japan for many years — due to the enormous appreciation of the Deutschmark (DM) and the Yen (¥) vis-à-vis the US Dollar (\$) and other major currencies. Since the early 1970s, when the industrialized world moved to flexible exchange rates, the effective value of the DM (compared to the weighted value of 18 industrialized countries) has risen by some 100 percent, the effective value of the ¥ even by some 180 percent (Figure 1). In both countries, there has been a widespread feeling that such an appreciation has clearly exceeded the path of the equilibrium exchange rate and, as a result, has imposed substantial costs in terms of growing uncertainty, diminishing price competitiveness and resource misallocation. In particular, it is suspected that it has exceptionally pushed up

¹ The paper was prepared for the German-Japanese workshop "Currency Appreciation and Structural Economic Change" organized by the Center for Japanese Studies of the Koblenz School of Corporate Management — Otto Beisheim Graduate School (WHU) and the Graduate School of Commerce, Waseda University in Tokyo on 17th and 18th September 1996. I wish to thank Katja Gerling, Birgit Sander and Wolfgang Winkler for their valuable assistance in writing this paper.

the process of de-industrialization as profitability of industrial activities has diminished compared to that of service activities.

Figure 1 – Effective Exchange Rate Variations of Deutschmark and Yen 1968–1995 (1972 = 100)^a



^aAgainst 18 industrialized countries.

Source: Deutsche Bundesbank.

In this respect, Germany and Japan appear to be identical twins — each of them has met the same hereditary factors. At a closer look, however, they rather seem to be brothers of different age and temperament. Germany has been confronted with an exchange rate problem one decade earlier than Japan. The appreciation of the DM already became a prime political issue in the second half of the 1960s. The problem came up in the export-induced upswing of 1964/65 when the German Export Council warned of a demand pull which would sooner or later lift up prices and wages. Finally, in spring 1967, the Council recommended a substantial revaluation but was blamed by the Federal Government, which banned

any thought of a change of the exchange rate. Only in November 1989, when the new social-liberal government came to power, the DM was revalued vis-à-vis the gold parity by some 9 percent. Later, during the turbulent interim period between December 1971 (when the Smithsonian Agreement was concluded) and July 1973 (when official interventions to support the \$ were stopped), it appreciated by an additional 20 percent. Until November 1974, just before the first oil price shock, when the wave of appreciation reached a preliminary peak, the DM had gained by one third vis-à-vis the \$.

Compared to the DM the revaluation of the ¥ was modest in the 1970s. Although the appreciation of the Yen accelerated in the second half of the 1970s after the first oil price shock, it did not exceed that of the DM. At the beginning of the 1980s the ¥ still lagged behind the DM by some 30 percent in terms of the effective exchange rate.

Although meanwhile the ¥ has outdistanced the DM, Germany has perhaps gained a lead over Japan in one respect: it appears to have learnt to live with a strong currency — and has met this challenge with some success. Confronted with a similar problem, economists and policy makers in Japan may possibly draw some lessons that can help them deal with their own problems — and prevent them from doing worse.

The following paper emphasizes the impact of the appreciation of the DM on sectoral structures of the German economy and vice versa during the 1970s. This period was one of the most turbulent in the world economy. It was heavily affected by disturbances in the international environment, in particular the collapse of the international monetary system, by the explosion of the prices for energy and other raw materials, by fundamental changes in the international division of labour and by the persistence of

an almost uncontrollable inflation. It marked the end of Germany's "post-war time" which has been characterized by high growth rates and full employment.

The paper is based on the so-called Structural Reports on the structural developments of the German economy. In view of the continued need for information and consultation on structural policy, the German Federal Government has charged five large economic research institutes with the task of monitoring changes in sectoral structures since the beginning of the 1960s. These institutes, which have enjoyed full independence in the course of their work, comprise: Deutsches Institut für Wirtschaftsforschung (DIW), Berlin, HWWA-Institut für Wirtschaftsforschung (HWWA), Hamburg, ifo Institut für Wirtschaftsforschung (ifo), Munich, Institut für Weltwirtschaft (IfW), Kiel, and Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI), Essen. As the government was interested in a broad spectrum of views each institute was asked to present its own report. In the years since elaborating the first series of reports in 1979² considerable progress has been made in understanding the process of structural change, the difficulties encountered by enterprises and governmental organizations and the chances of coping with them. As one of the results, the passionate debate among the five institutes also brought the initially diverging views somewhat into line.

² Although the Federal Government has not necessarily shared all the opinions and conclusions expressed by the institutes it has obviously appreciated the high quality of the reports. It has prolonged the expensive research project several times. Until now each of the institutes has published five main reports and numerous special reports. In total, the research is documented in some 50 volumes. The unabridged reports, comprising some 100,000 pages, have been published in German only. An abridged English version of the reports of the third round (1984–87) was published by the Federal Ministry of Economic Affairs [BMW_i 1988]. All quotations from the original reports and from other German-language publications have been translated by the author of this paper.

The paper cannot deal with all the facets of the DM appreciation explicitly or implicitly raised in the course of reporting. Rather, it must stick to the crucial points. Therefore, it concentrates on three questions:

- first, which was the underlying theoretical background,
- second, which were the controversial issues, and
- third, which are the conclusions for economic policy drawn from the reports?

As the author of this paper has been actively involved in the research project — having been in charge of the contributions of the IfW for more than one decade — his assessment is necessarily biased to a certain extent. However, he has made a genuine effort to portray the diverging positions of the institutes in a fair manner.

II Theoretical Background: Links between Exchange Rate and Structural Change

1 Alternative Models

Explaining exchange rate variability and its impact on economic activity is clearly an important issue in the literature. Two types of theoretical models — structural and monetary ones — are available for explaining the links between exchange rate variability and structural change. They substantially differ with respect to the underlying factors, causal relationships and the time horizon. In some respect, they appear to be rivals rather than complements.

Structural Models

- The standard structural model was developed by Balassa [1964] and Samuelson [1964]. Its basic assumption are the secular shifts of the price of traded goods relative to non-traded goods: the rate of technical progress for traded goods being higher than that for non-traded goods a fast growing economy will experience a decrease in the relative price of traded goods in comparison to a slowly growing economy (productivity bias). In a system of flexible exchange rates the currency of the fast growing economy will appreciate in nominal and real terms over time.
- Another model emphasized the changes in the relative price of traded goods relative to non-traded goods which are caused by shifts on the demand side [Salter 1959]. With an income elasticity of demand for non-traded goods higher than for traded goods, the relative price must change in favour of non-traded goods — as the additional demand for these goods can only be satisfied by domestic production (demand bias). If an excess demand for non-traded goods exists, the fast growing economy will experience an appreciation of its currency in comparison to a slowly growing economy, too.

Both groups of models can explain why even on the assumption that monetary conditions are much the same in two countries, the exchange rate of their currencies can diverge from the purchasing power parity (PPP). This will be the case when the pace of structural change as a result of alterations in supply and demand conditions differs between their economies [Heitger 1983, 1987].

In structural models with flexible exchange rate the appreciation has an important function: it is the vehicle for pushing structural change. Due to the influence of the productivity and of the demand bias the relative and the absolute price for traded goods falls. In contrast, with a fixed exchange rate, if the absolute price of traded goods is fixed by definition, the productivity bias will increase the profitability of sectors producing tradables compared to those producing non-tradables. In this case only the rising demand for non-traded goods will bring about adjustment. Evidently, with a fixed exchange rate the process of structural change will be hampered or even be turned in the false direction.

Monetary Models

- In contrast to structural models which can explain long-term exchange rate deviations, monetary models can only focus on short-term fluctuations. The standard approach can be found in the work of Frenkel [1976]. In his model, exchange rate variations are determined by changes in supply and demand conditions on financial markets. A tight monetary policy in one country, e.g., will cause an increase in the interest rate and as a result an increase in demand for the currency of this country followed by an appreciation.
- Another strand of arguments is based on a model by Dornbusch [1974] which incorporates diverging adjustment parameters on commodity and financial markets. Its basic assumption is that commodity prices are sticky in the short run, while asset prices, including those of foreign currencies, are flexible. Consequently, changes in monetary aggregates can cause an over- and undershooting of the exchange rate in the short run: for example, if the interest rate of one

country rises, the country's assets will become more attractive compared to those of another country. In this case the actual exchange rate will exceed the equilibrium exchange rate — until expectations of depreciation will give wealth holders the incentive to adjust their portfolios.

According to monetary models, an overshooting of the exchange rate can only happen temporarily. Sooner or later the actual exchange rate must come back to the equilibrium exchange rate in terms of PPP. Nevertheless, an overshooting can be a risk factor for the economy. It can destabilize expectations and make economic activity less attractive. In particular, it can easily muddle the pattern of resource allocation as it affects tradables producing sectors much more than non-tradables producing ones.

2 Causal Relationships

Structural and monetary explanations of exchange rate variations are based upon a different understanding of causality. Although the causality principle in economics cannot be expected to be of deterministic character, it is possible to say:

- In structural models the causing variables are real factors — including structural change — which are, in principle, understood to move prior to the variable which is affected by them, namely the exchange rate.
- In monetary models only the interest disparity affects the exchange rate which then is causing changes in the real economic world.

This is important for the predictive power of exchange rate models: in structural models the long-term path of the exchange rate can be predicted with acceptable precision on the basis of past and present patterns

of structural change. In monetary models only some parts of the exchange rate variance can be explained as far as they are caused by changes in money aggregates.

It seems as if the structural approach potentially carries more predictive power because the dichotomy between exogenous and endogenous variability is less strict than in the monetary approach. Moreover, in structural models causality can also run in both directions: if economic agents act according to their expectations of the future values of certain variables, then it is possible that the affected variable changes prior to the causing variable. Accordingly, exchange rate variation may occur earlier and on a higher level than the variation in the structure of production. In monetary models the exchange rate can affect structural change, but structural change does not play a causal role for the exchange rate.

3 Long-term and Short-term Deviations

Finally, structural and monetary models differ substantially with respect to their time horizon. Structural models can mainly explain secular (non-stationary) drifts in the real exchange rate as the causing variables — technology and tastes — usually change gradually and smoothly over time. In monetary models the causing variables — money supply and interest rates — can have only a purely transitory (stationary) influence on the exchange rate as deviations from the equilibrium will be equalized.

It is evident that these differences have subtle and far-reaching consequences on understanding the long-term development of the exchange rates of DM and ¥. As a secular rise in the PPP-based exchange rates

has been observed (Table 1),³ monetary factors do not appear to be very successful in explaining this. However, transitory variations of the exchange rate, which obviously exhibit long-term behaviour, have also been observed. They might reflect the impact of short-term changes on monetary aggregates. Therefore, empirical evidence suggests focusing on both types of models as complements rather than as substitutes.

Table 1 – Cumulative Increase of Real Exchange Rates of Deutschmark and Yen 1975–1995 (in percent)^a

	Deutschmark	Yen
Consumer price based	±0	47.6
Unit labour costs based	41.1	59.1

^aAgainst 22 industrialized countries.

Source: IMF; own calculations.

4 Exchange Rate and Structural Reports

Structural as well as monetary models played a decisive role in the Structural Reports for explaining the appreciation of the DM in the 1970s — although as substitutes rather than as complements. In this respect, the institutes were often divided into two fractions: DIW, RWI and ifo, which constituted the majority, preferred to argue within the framework of the monetary approach. Much of their attention was given to the links between monetary policy and exchange rate and the impact on structural change. These institutes were frequently at odds with the German Bun-

³ Real exchange rates should usually be calculated by using price indices for traded goods. Institutions such as IMF, OECD or J.P. Morgan produce and publish effective exchange rates on the basis of consumer prices and (standardized) unit labour costs. These calculations might be more or less "distorted" by developments in the domestic economy. The absence of a real appreciation of the CP-based DM can mainly be explained by the rise of indirect taxes in recent years.

desbank for using the exchange rate to stabilize the domestic price level. In particular, they complained that this strategy would have caused a severe profit squeeze in the industrial sector. IfW and HWWA instead emphasized real factors governing the exchange rate path. They welcomed the appreciation of the DM, which was mainly considered as the response to the repression of structural change caused by an undervalued DM during the period of fixed exchange rates. In contrast to DIW, RWI and ifo, IfW and HWWA underlined the positive effects of a strong DM as it was thought to favour structural change in the manufacturing sector.

III Controversial Issues: Deviation of Sectoral Structures from the International Pattern

1 A Normal Pattern of Structural Change?

The discussion was already opened in the early 1970s by a study put forward by Fels, Schatz and Wolter (FSW) [1971] on past and prospective structural change in the Federal Republic of Germany. One message of the FSW-study was, as it may be recalled, that Germany became "over-industrialized" during the 1950s and 1960s: the share of manufacturing in gross domestic product (more than 40 percent) was significantly higher than what would have been expected for a "representative" country with similar per-capita income and population size. Moreover, this share increased over time whereas it decreased in other economically advanced countries such as the United States, France or the United Kingdom. Consequently, the FSW-study predicted not only a profound exchange rate adjustment in the wake of the collapse of the Bretton-Woods System but also major shifts in the structure of production and employment. As Table 2 shows, this prediction has been confirmed by current development.

Since 1970, the share of manufacturing in both gross value added and labour force has decreased and that of the service sector has increased substantially.

Table 2 – Structure of Production and Employment by Main Sectors in (West) Germany 1960–1995 (percent)

Sectors	1960	1970	1980	1990	1995
	Gross value added ^a				
Primary sector ^b	8.6	4.6	3.1	2.3	1.9
Secondary sector ^c	50.4	50.5	43.2	39.4	33.6
of which:					
Manufacturing	40.3	40.2	32.7	31.7	26.4
Tertiary sector ^d	41.0	44.9	53.7	58.3	64.5
	Active labour force				
Primary sector ^b	15.9	9.7	6.4	4.2	3.3
Secondary sector ^c	45.8	47.7	43.2	39.0	35.2
of which:					
Manufacturing	36.9	38.1	34.2	30.8	27.3
Tertiary sector ^d	38.3	42.6	50.4	56.8	61.5

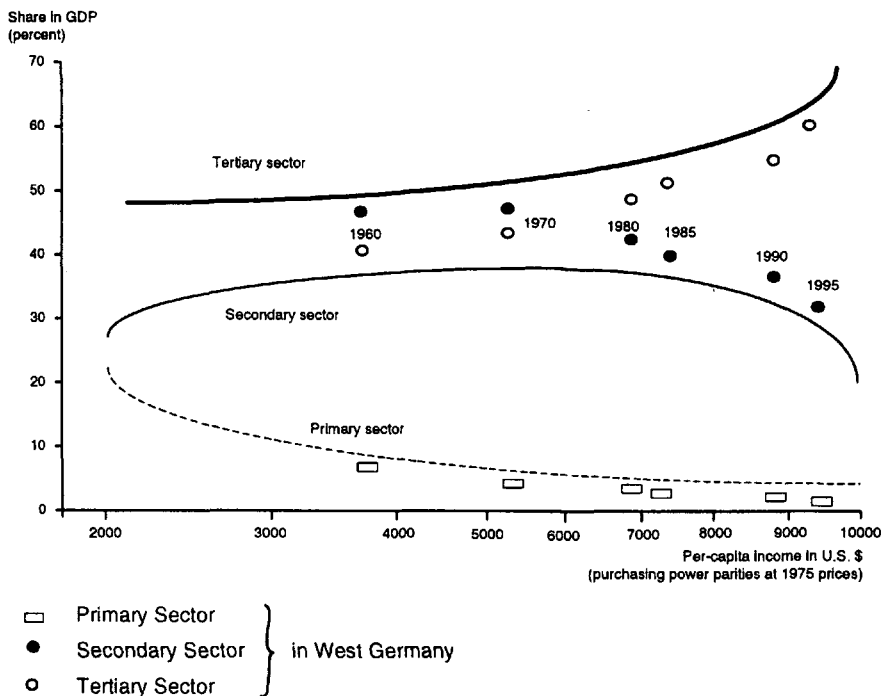
^aAt current market prices. – ^bAgriculture, forestry, and fishing; mining and quarrying. – ^cManufacturing; electricity, gas, and water; construction. – ^dTrade, transport and communications; banking, insurance, and real estate; public administration; other services.

Source: Central Statistical Office; own calculations.

The FSW-study was based on a long list of econometric research on structural change pioneered by Chenery [1960] which had revealed that the level of per capita income can sufficiently explain the "normal pattern" of sectoral structure and, accordingly, its change over time. The theoretical background of the study was the so-called "three-sector hypothesis" developed by Clark, Fisher and Fourastie. The "normal pattern" was identified for a large sample of countries by OLS regression analysis by combining cross-section and time-series data. An update of the FSW-study by Donges, Klodt and Schmidt [1986] is given in Figure 2. It shows the fundamental deviation of the west German production structure from the "normal pattern" for selected years. The most striking feature is that in

1960 and 1970 the share of the secondary sector was substantially above the "normal level" whereas the share of the tertiary sector was of comparatively small size. Since the early 1970s, this deviation has been significantly reduced as predicted in the FSW-study.

Figure 2 – Per-capita Income and Sector Shares in Gross Domestic Product (OECD Sample)



Source: Donges, Klodt, Schmidt [1986]; up-dated by the author.

The "normal pattern" or the "three-sector hypothesis" were one focus of attention in nearly all Structural Reports. It was intensively propagated by IfW and HWWA as a useful tool for understanding structural trends — and questioned or even rejected by the other institutes especially by ifo. Generally, it was doubted whether such a "normal pattern" could be

empirically clearly identified, theoretically sufficiently explained, and practically applied in order to make predictions and to give policy advice. For a long time, DIW and ifo in particular could not detect any secular shift from manufacturing to services and were not willing to follow the arguments of IfW and HWWA.⁴ The sharp decline in the manufacturing nominal value added share was interpreted as the consequence of the exorbitant rise in the real exchange rate of the DM — and not vice versa.

In the 1970s, the "three-sector hypothesis" was far from being popular. In particular, it was not very appealing for manufacturing firms as it predicted a sustained de-industrialization of the German economy. Their lobby could not get to like the idea that there had been a disequilibrium earlier which promoted export-led growth. Under these circumstances it is understandable that IfW and HWWA saw themselves heavily criticized. The Federal Confederation of German Industry (the counterpart of the Japanese Keidanren), therefore, usually commented the Structural Reports of these institutes less enthusiastically.⁵

⁴ This was also a problem of accounting. While IfW and HWWA examined sectoral output shares on current prices, DIW and ifo preferred the shares on constant prices. In fact, in "real terms" the structural shifts were less impressive. However, as it was argued by IfW and HWWA, changes in the price structure should be understood as an important part of changes in the sector structure, too, which could not be isolated.

⁵ It should be noted that the debate about "de-industrialization" has been a political issue not only in Germany. It was also intensively discussed in other industrialized countries, e.g. in the United Kingdom [Kaldor 1978] and in the United States [Lawrence 1984]. Over here as well as over there, there was argument whether the losses of the manufacturing sector should be interpreted as a step to normality or as a transitory deviation from the long-term path of structural change.

2 *Normalization or Overshooting?*

At the end of the 1970s, the proponents of the "overshooting hypothesis" had clearly gained the upper hand. The appreciation of the DM reached a record, and export industries came under severe competitive pressure: "There is some evidence", concluded Gerstenberger [1984], who was in charge of Ifo's Structural Reports for many years, "that the exchange rate of the DM has been clearly 'distorted', say overvalued". In fact, empirical support appeared to come about when the DM was depreciated vis-à-vis the \$ in the first half of the 1980s. In these years the share of manufacturing in gross domestic product slightly increased once more: "As usual, when the pendulum swings out, a correction will follow in the other direction" [Gerstenberger 1984: 14].

Consequently, during the 1980s, there was much discussion between the institutes about the question of how the gains of manufacturing industries should be interpreted [Klodt 1988]. According to IfW and HWWA, the share of the industrial sector was still too high compared to international standards. Therefore, the two institutes expected that these gains would only be of temporary nature. Even DIW, usually not joining the arguments of IfW and HWWA, warned to raise unfounded hopes: "Structural change that relies only on exports can prove to be a wrong turn that must be rectified in the long term, thus causing pressure for renowned structural change Export-led structural change in slow growth periods can become the starting point for new structural difficulties" [cited from BMWi 1988: 7].

Looking back, we can say that the period of re-industrialization remained an episode. With a stronger DM manufacturing industries were once again exposed to growing competitive pressure from abroad. Not surpris-

ingly, the structural pattern from the mid 1980s onwards corresponded to that in the 1970s. As a consequence, the re-industrialization hypothesis definitely disappeared from the agenda.

Meanwhile, German businessmen and policy makers are obviously geared to live with a strong DM. Accordingly, their emphasis has been placed upon another major issue: how can Germany defend its position in what is called locational competition? In fact, it is hard to fault the argument that investors are appraising other locations as more attractive [Klodt, Stehn et al. 1994]. As five million additional jobs are needed to absorb all the unemployed and underemployed, the discussion is dominated by an "apocalyptic view" of unemployment which argues that there is no other solution but a drastic supply side reform — including reorganization of the tax system, deregulation of the labour market and liberalization in the field of service activities.

3 Adjustment as Positive or Negative Sum Game?

While the strong DM was welcomed by IfW as a vehicle for pushing structural change, it was criticized by RWI [1983]: "As the DM shows a tendency to overvaluation caused by the tight internal monetary policy, the Federal Republic of Germany has become a high-price economy, in particular for producers from other industrialized countries which can sell their products on the German market under relatively favourable condi-

tions — to the German producers' detriment and to the benefit of German consumers" [p. 7].⁶

At a quick glance, the facts seemed to support neither the optimism of IfW and HWWA nor the pessimism of RWI: in contrast to their expectations, German exports were found to expand continuously in the 1970s. Germany's share in the world markets remained rather stable; the slight decline from 1974 to 1976 and 1978 to 1981 was mainly caused by the world-wide recession in the wake of the oil price crisis (Figure 3):

- One part of the firms was able to raise export prices by the rate of appreciation. Obviously, there was an unexploited scope for price increase from the previous period, implying some sort of cost-plus-pricing on behalf of German exporters, irrespective of what the market could bear. In the 1970s, many German firms still believed to hold a price leadership in world markets.
- Another part accepted a substantial drop in profitability of exports. In the early 1970s profit margins were still high on average, thanks to the previous period of fast export-led growth.

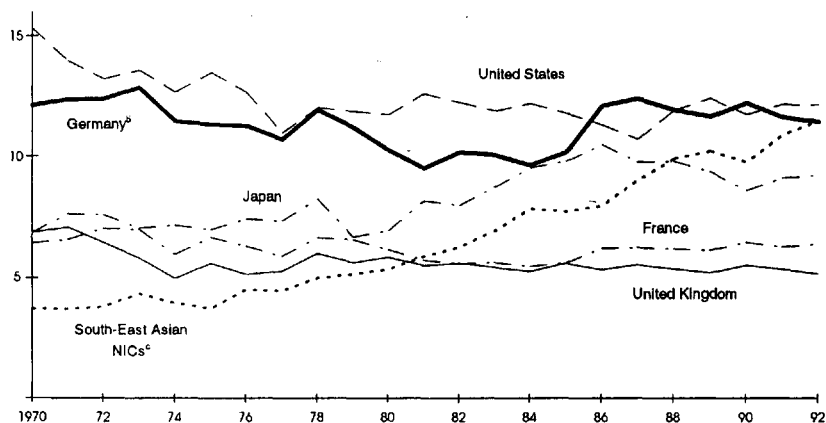
No doubt, the international competitiveness of the German industry appeared to be still quite good at that time.

The general impression was that for the time being the majority of manufacturing companies adopted a wait-and-see strategy. Possibly, shortly after the appreciation shock they felt unable to anticipate their future sales

⁶ In the early 1990s, the discussion about the impact of a tight monetary policy on structural change has erupted once again. In a recent article in a German newspaper, Holtferich [1996] criticized the Bundesbank for its what he called tight monetary policy, which has have pushed up the exchange rate of the DM — and has crippled export industries.

conditions correctly, or to adjust their capacities and staff swiftly, or to assess the consequences of such a negligence adequately.

Figure 3 – Shares in the World Market^a of Selected Countries 1970–1992 (p.c.)



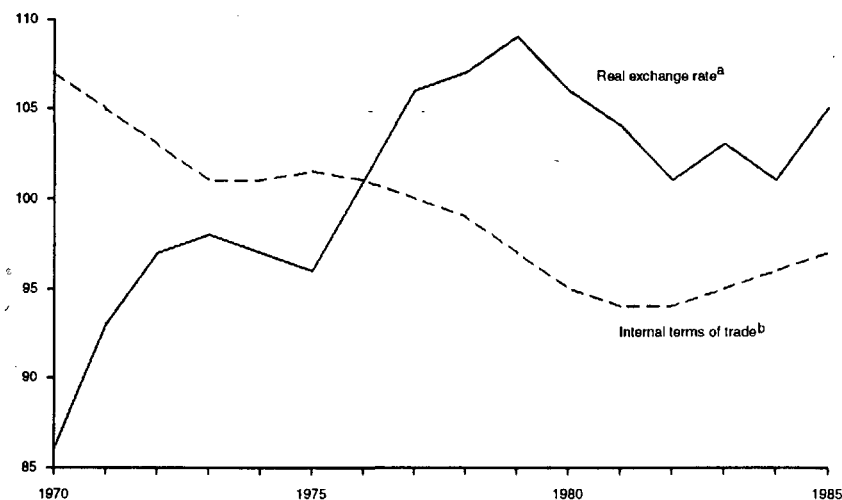
^aIn current US dollars. – ^bWestern Germany. – ^cHong Kong, Malaysia, Singapore, South Korea, Taiwan, Thailand.

Source: Klodt, Stehn [1994].

In fact, if the exchange rate rises so dramatically that it must be assumed that it cannot but fall in the relevant future, investors may tend to postpone far-reaching decisions. During the 1970s many companies might have placed a bet on a reversing exchange rate. However, there was an unmistakable sign that the matter would not brook any delay: the dramatic change in the double factorial terms of trade at the expense of manufacturing industries (Figure 4). Evidently, many manufacturing companies wasted too much time before they painfully realized the substantial deterioration of their export performance. When some institutes in the early 1980s doubted the competitive position of the German export industries, this was categorically rejected by the representatives of these industries.

It needed a decade until they conceded that Germany's industrial companies suffered from a weakening of their export performance.

Figure 4 – Real Exchange Rate and Double Factorial Terms of Trade between the Manufacturing and the Service Sectors 1970–1985 (1975 = 100)



^aBased on unit labour costs. – ^bValue added per working hour in manufacturing and in services.

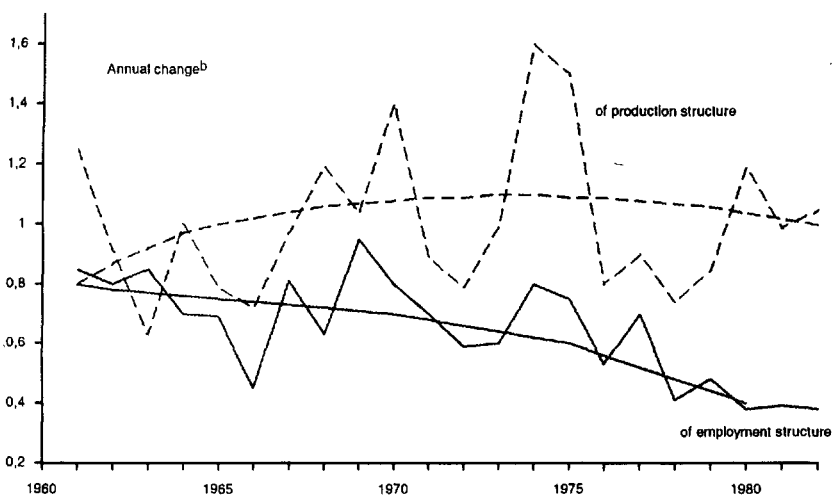
Source: Central Statistical Office; Deutsche Bundesbank; own calculations.

With respect to industrial restructuring there was consensus of opinion among all institutes that the majority of companies did not respond to the appreciation shock adequately. Adjustment — measured in terms of intersectoral shifts of production and employment — declined remarkably (Figure 5).⁷ Growth in the branches that had been given most support for

⁷ This was clearly expressed by HWWA: "If short-term cyclical fluctuations in production and employment are excluded, it becomes clear that structural change has consistently slackened during the 70s and 80s and that the employment structure has since become relatively robust" [cited from BMWi 1988: 54].

economic expansion slowed down considerably. The normal process in which declining branches were replaced by fast-growing and job-creating branches nearly came to a standstill.

Figure 5 – Rates of Sectoral Change in Germany 1961–1982^a



^aCalculated by the formula $S = \sum_{i=1}^n (a_{i,t} - a_{i,t-1})^2 \times 100$. – ^bMoving 3-years average.

Source: Central Statistical Office; own calculations.

What we can learn from this is the following: if changes are precipitated by external shocks such as a substantial appreciation of the currency, the companies first tend to react defensively rather than offensively. While markets demand more flexibility, producers — employers as well as employees — demand more stability.

The crucial point has been — and this divided the institutes once more into two fractions — the employment problem. IfW and HWWA always argued that structural change could be a positive sum game — provided labour markets were flexible enough. In this respect, the other institutes

were less optimistic. In particular, ifo suspected that the capacity of the service sector would not be large enough to compensate for employment losses in the manufacturing sector.

This controversy illuminates some shortcomings of the adjustment process: from 1970 to 1995, more than one quarter of working places in manufacturing industries have been lost. While these industries were flexible enough to reduce their staff adequately, service industries were too inflexible to provide relief for the labour market. The right answer to the ongoing de-industrialization would have been a resolute strategy of deregulating service industries, as it was urgently demanded by IfW and HWWA. Many markets for services are not structured along competitive lines. Efforts to dismantle the barriers to competition have only been moderately successful to date.

4 Pressing-down or Pushing-up Economic Activity?

Conventional wisdom suggests that economic activity will be negatively affected if a currency is going through a phase of appreciation. It is argued that increasingly intensive competition will reduce the profitability in manufacturing industries compared to the past. In particular, if the real exchange rate moves to such a peak that only exporters with the lowest price elasticity can survive, there might not be enough incentives, flexibility and time for overcoming difficulties through internal efforts such as rationalization and efficiency improvement. In particular, in the short and medium term, when export earnings are substantially reduced, innovations can be seriously hampered.

The basic idea behind this argument is that there is a break-even exchange rate allowing companies to adapt. If the actual exchange rate ex-

ceeds the break-even exchange rate this is seen as an appreciation well beyond any reasonable efforts on part of companies. However, a break-even exchange rate is not a fixed value. According to long-term observations, it follows the effective exchange rate little by little as the appreciation goes on — indicating that companies are, albeit gradually, coming to terms with and are becoming able to adapt to it.⁸ In contrast to conventional notions, it is likely that a substantial appreciation of the currency will accelerate the rate of technical progress. In the framework of the product cycle model, e.g., it will shorten the product cycle and positively influence the rate of innovation. For this it is likely that an appreciation-induced higher degree of competitive pressure will make the management more receptive to best-practice techniques. As a result, the appreciation can become also a flywheel for structural change and economic growth.

The causal relationship between exchange rate variability, structural change and economic growth was another controversial issue in elaborating the institutes' Structural Reports. This can mainly be explained by the different paradigms they traditionally adhered to. For the Keynesian-oriented DIW, e.g., an exchange rate induced decline in the growth rate caused the slow pace of structural change observed in the 1970s and 1980s: "Macroeconomic and structural problems are not mutually independent. The persistence of an inadequate level of macroeconomic demand leads to losses of existing jobs for which no sufficient replacements are created in the process of structural change. ... Enterprises offering new products have a hard time when demand is lacking ... Therefore, it is

⁸ At present, in Germany the break-even exchange rate for exports is generally regarded to average 150 DM/100 \$ or thereabouts. In Japan it is 100 Yen/100 \$, much lower than what was calculated for the PPP-based exchange rate one year ago (180 Yen) [Japan Development Bank 1995].

quite explainable that under the condition of insufficient demand the pace of structural change will only be slow" [1987: 4]. In contrast, for the Schumpeterian-oriented IfW the lack of demand resulted from backlogs in adjustment: "A higher rate of economic growth can only be achieved by a higher tempo of structural change: by developing new products and new production technologies and by widening capacities — in anticipating future demand" [1989: 7]. According to this view, coping with a strong currency is not a demand but a supply problem.

The suggestion that the slow pace of structural change in the 1970s and 1980s was caused by poor macroeconomic conditions is not convincing in its general form. As HWWA correctly pointed out in its third Structural Report: "Stagnation and unemployment (also) occur when the production capacities established by the enterprises do not develop in line with the preferences of the population, the comparative advantages in international competition and the relative scarcity of resources" [BMW_i 1988].

Looking back on ten years' Structural Reports, IfW came to the following conclusion: "The German economy is not (yet) structurally sound. Neither has it regained an adequate level of growth, nor have job opportunities been exhausted. It will move into the nineties heavily burdened with unsolved structural problems. The situation resembles that of ten years ago when the Structural Reports started" [cited from BMW_i 1988: 102].

IV Conclusions: What Lessons for Japan?

Many years of a strong DM suggest that for an adaptive economy the exchange rate

- is moving alongside an upward trend rather than a random walk,

- is governed by real rather than monetary factors, as it has substantially exceeded the purchasing power parity,
- is — by and large — positively affecting the economy as the appreciation is increasing the pressure to adjust.

Moreover, as the adaptability of the German economy has been put to the test many times, it seems to be only logical that markets prove their confidence by appreciating the DM to reach a higher level.

To put it in a nutshell: a strong currency can signal both weakness and strength. It can be an indication of a considerable adjustment backlog and of a considerable capability of the economy for catching-up.

In the light of this understanding, Japan's business community and political establishment should take the high valuation of the Yen as a chance. They should no longer portray themselves as the victims of the vagaries of the foreign currency markets and of the neglectful policies of their western allies, especially the United States. The current exchange rate is without any doubt a heavy burden for companies. It is understandable that they would like to have a weaker Yen. However, businessmen and policy makers cannot do more than talk about it. Actually, measures for pressing down the Yen⁹ have left markets totally unimpressed.

Like the German economy, the Japanese economy has many times successfully demonstrated its capability of adaptation to structural change caused by external shocks. In particular, export industries with the most to lose from a strong Yen and which usually complain loudest have been

⁹ On the monetary policy front, the official discount rate has been reduced to ½ %, the lowest figure ever recorded in Japan and elsewhere.

able to cope with it better than they want to admit. They have rapidly managed a remarkable adjustment process. For this, Japan's fast changing commodity pattern of foreign trade is a good proof: exports of consumer goods have declined in relative importance to those of capital and intermediate goods, partly in demand by overseas subsidiaries of Japan-based companies.

However, in one respect at least, Japan's long-term performance appears to fail to match the very best — just like Germany and other European countries: unemployment, although still low compared to European standards, is rising. The "Japanese approach" to what has been called hollowing-out — i.e. shifting labour-intensive manufacturing to low-wage countries elsewhere, leaving high technology and research-intensive production in highly-educated Japan — must sooner or later inflict long-term damage on the industry's capacity. This approach now has to be complemented by the long-awaited measures designed to fresh up the domestic economy. The "Financial Times" [1995] certainly met the point: "Yen relief must begin at home".

At the 25th Yomiui Symposium on the International Economy held on May 19, 1995, the Governor of the Bank of Japan, Yasuo Matsushita [1995] correctly sketched the way: "In the meantime, Japan, as a country with a strong currency, must work to transform its economy to make it more robust so that it may withstand exchange rate fluctuations of a certain degree. ... To do so, it is necessary for the Japanese government to seriously carry out measures to alter the economic structure, including deregulation. While the significance of these measures is often highlighted in the context of stabilizing exchange rates or rectifying external imbalances, I should like to stress that these measures are necessary to

achieve a more fundamental objective, namely, a stable development of our domestic economy".

According to Yoshio Suzuki (1996), Chief Counselor of the influential Nomura Research Institute, Japan is now at a historical cross-road comparable to the Meiji Restoration of 130 years ago and its defeat in World War II half a century ago. Thanks to these events, Japan was able to catch up with the most advanced industrialized nations. However, the previous historical transformations have obviously reached the limits of their effectiveness. They have established an "Iron Triangle" of politicians, bureaucrats and businessmen, who tend to postpone reforms rather than promote them. "This, indeed, is the major problem that must be solved in order to realize structural economic reforms in Japan".

In this respect, Germany cannot be a model for Japan. In cutting tax rates and subsidies, in deregulating domestic goods and factor markets and in reorganizing and privatizing public activities, it has made only little progress. Germany's "Iron Triangle", although often divided and involved in internal conflicts, has in principle homogeneous interests: to preserve the status quo. So far, Japan and Germany have been quite similar — like two brothers who have grown up in the same environment. Both have to learn yet that slow structural change is the cause of their common problems, not the cure.

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