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Effects of the Flexible Exchange Rate System on Developing Countries

by Hans-Peter Nissen, Klaus Behling*

The Bretton Woods system of fixed exchange rates was abandoned by the industrialised countries in March 1973. They switched to a system of flexible exchange rates. Representatives of the developing countries were particularly critical of the industrialised countries' exchange rate flexibility. They saw themselves not only bearing the brunt of the costs associated with balance of payments readjustments but also faced with greater fluctuations both in prices and terms of trade and with other negative effects due to the general increase in uncertainty regarding exchange rates. Are such fears justified?

IMF countries have *de facto* been able to choose between different exchange rate policies since March 1973, *de jure*, however, following the "Second Amendment to the IMF Agreement" which came into force on April 1, 1978. Each country is free to make a basic choice between exchange rate floating and exchange rate pegging.

A decision in favour of floating entails one of the three following possibilities: the currency can float on a completely independent basis, currencies can be grouped together to a currency area whose members' currencies are pegged in terms of each other and float jointly against other currencies, or the exchange rate can instead of floating completely freely (which includes certain interventions by the central bank to smooth out more erratic exchange rate fluctuations), be linked to a set of indicators ("crawling").

If exchange rate fixity is chosen, then there are again various possibilities: the currency can be pegged to a single major currency (for example, the US dollar, the pound sterling or the French franc). Or the exchange rate may be pegged to a particular currency basket. Such a basket could, for example, consist of and be weighted by the currencies of the most important trading partners. Finally, instead of pegging the currency to an individually chosen, country-specific currency basket, it can be pegged to the Special Drawing Right (SDR), the value of which is ascertained daily and based on a basket of the most important currencies.¹

Assessed according to the number of its members, the system is primarily one of fixed exchange rates! According to the volume of trade of the exchange rate groupings, it is primarily a system of flexible exchange

rates: the group of floating countries, consisting mainly of industrialised countries, accounts for over 70 % of the total trading volume. At the same time, any changes in the exchange rates of major currencies or currency baskets directly affect the pegged currencies of the respective developing countries, which further underlines the flexible character of the exchange rate régime.

Figure 2 illustrates the development of the industrialised countries' effective exchange rates between 1973 and 1979. The floating carried out by the industrialised countries

- not only requires the developing countries to readjust their own monetary and exchange rate policies,
- but also has more or less far-reaching effects upon the developing countries' economies (in conjunction with their respective decisions on exchange rate policies).

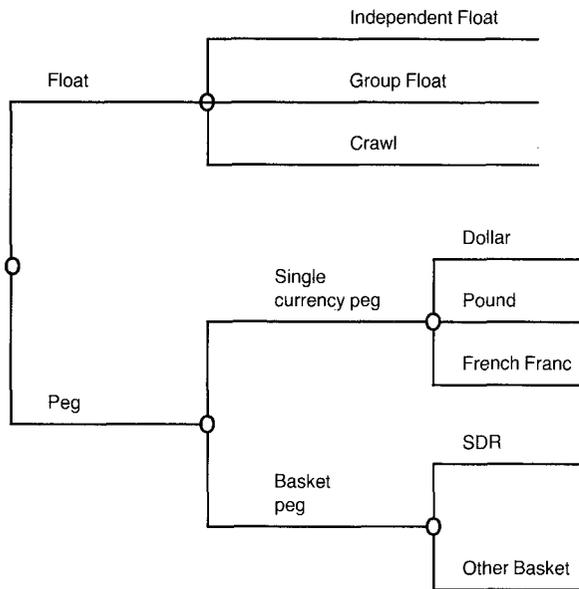
A look at the development in exchange arrangements between 1973 and 1980 (see Table 1) reveals that many of the developing countries in question have altered their arrangements. The general trend points towards a decrease in pegging to individual currencies and an increase in pegging to individual currency baskets and to the SDR. Of note is the relatively large number of developing countries (30!) which have adopted their own floating or indicator-linked systems.

Both the large number of changes made in the exchange arrangements and the movement towards more "complicated" (diversified) (key) currency systems demonstrate that the choice of a suitable exchange rate policy has under present conditions

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¹ Before 1981, the 16 most important currencies were included in the basket. Since January 1, 1981, however, only five currencies determine the value of the SDR: the US dollar (42 %), the D-mark (19 %), the French franc (13 %), the Japanese yen (13 %) and the pound sterling (13 %).

Figure 1
Exchange Rate Options for IMF Members¹



¹ The classification of countries according to the IMF model has on the whole been accepted, although it does present certain difficulties. It is very doubtful whether the actual exchange rate policies pursued by any one particular country always correspond to the classification categories. A currency with a fixed exchange rate can, for example, frequently change its rate against its major currency, thus in fact becoming a floating currency. On the other hand, floating currencies can be manipulated in such a way that they may to all intents and purposes be regarded as fixed to a key currency.

Source: H. R. Heller: Choosing an exchange rate system, in: Finance & Development, No. 2, 1977, p. 23.

become a significant problem for the developing countries. Considering their lack of past experience in these matters it is hardly surprising that in the course of time developing countries often (in a number of cases repeatedly) reverse their decisions on exchange rates. The gradual decline in the number of changes made (Table 2) – only 7 developing countries altered their exchange arrangement in 1980 – could be indicative of a certain completion of the process of readjustment by the developing countries to the flexible exchange rate system.

The process of trial and error in exchange arrangements depends, however, not only on the given structure of exchange rates, which is primarily determined by the currencies of the industrialised countries, but also on the economic criteria and possibilities peculiar to any one developing country. Both factors can in no way be regarded as stable. Considering the continuing unrest on foreign exchange markets and the structural changes in the international economy, the structure of exchange rates can, for its part, be expected to undergo constant change. At the same time changes will occur in the economic criteria

Table 1
Developments in the Exchange Arrangements of Developing Countries¹, 1973-80
(at the end of each year)

Exchange Arrangements	Number of Developing Countries						
	1973	1975	1976	1977	1978	1979	1980
US dollar	64	53	50	46	37	35	33
Pound sterling	11	5	3	3	2	1	1
French franc	17	14	14	14	14	14	14
Spanish peseta	1	1	1	1	1	1	1
South African rand	1	1	2	2	2	2	2
SDR	9	9	13	11	10	11	12
Basket	15	15	14	13	15	14	14
Indicator-linked	–	–	–	3	4	4	3
Floating	–	9	10	14	22	25	27
	97	108	108	108	108	108	108

¹ Included in the survey are those 108 developing countries which have been IMF members since 1975.

Table 2
Frequency of Changes Made by Developing Countries in their Exchange Arrangements
(from one period to the next)

1975	-	1976	-	1977	-	1978	-	1979	-	1980
	13		10		12		12		7	

and possibilities of developing countries, necessitating or allowing for more complex exchange arrangements (for example, in the so-called newly industrialising countries).

The following are the most important factors in determining decisions on monetary policies:

- the structure of the existing financial sector, including the money and foreign exchange markets;
- the currency structure of international trade relations and their price elasticities;
- the structure of international debtor-creditor relations and of foreign exchange reserves;
- economic disturbances, such as high inflation rates or changing terms of trade.

An analysis has shown² that countries pursuing a policy of pegging reveal the following characteristics:

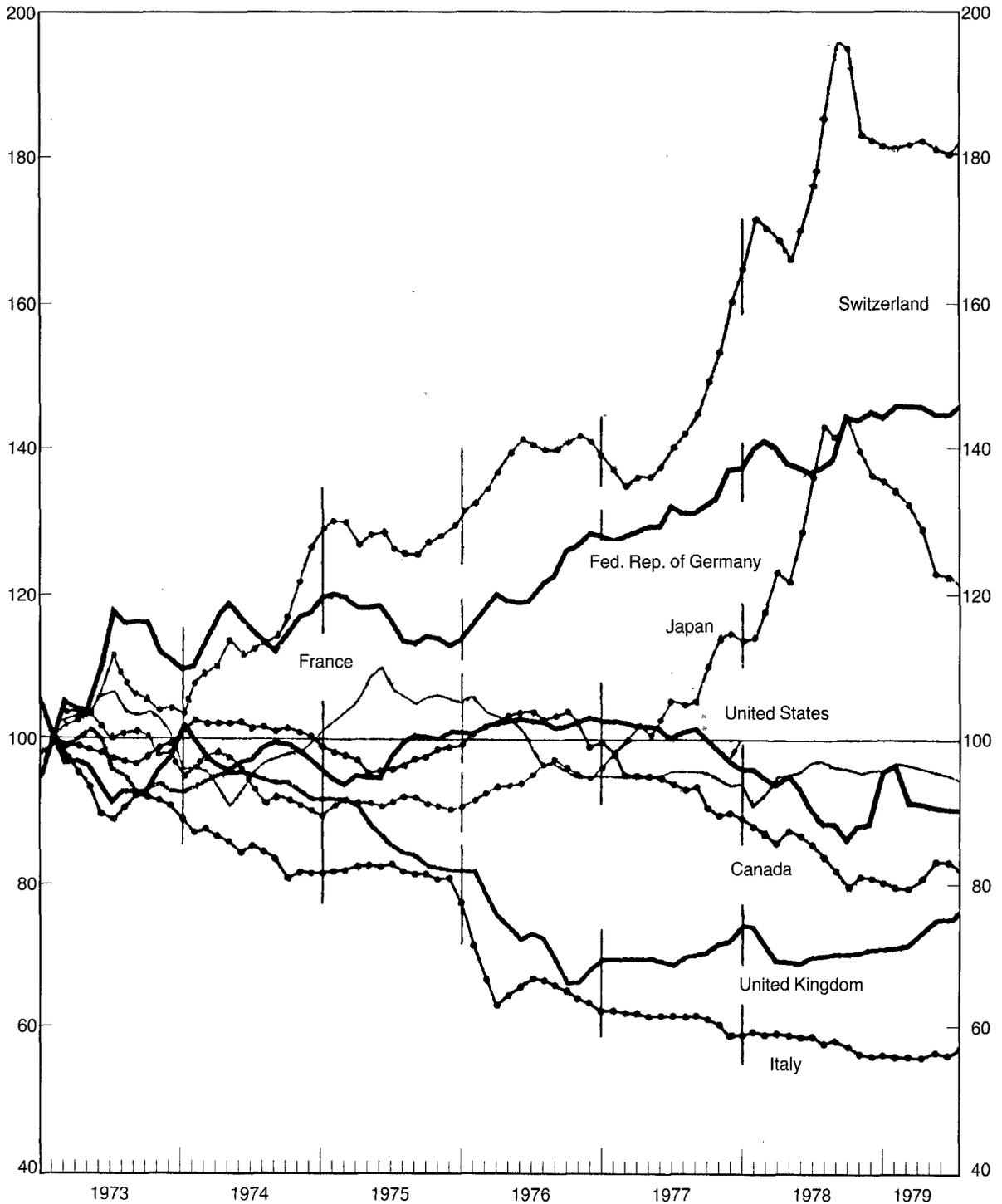
- a high import/GNP ratio;
- a small gross domestic product;
- a low level of diversification;
- a low rate of inflation;
- a low ratio of foreign financial assets to the total money supply.

The characteristics of countries with floating currencies are quite the reverse. The particular choice

² Cf. H. Robert Heller: Choosing an exchange rate system, in: Finance & Development, No. 2, 1977, p. 23.

Figure 2

Indices of Effective Exchange Rates, December 1972 – June 1979
 (monthly average of daily spot rates; first quarter 1973 = 100)



¹The weights for calculating effective exchange rates are derived from the Fund's multilateral exchange rate model
 Source: IMF Annual Report 1979, p. 36.

EXCHANGE RATES

of currency or basket peg (US dollar, French franc, pound sterling, SDR or another currency basket) primarily depends on the trade and finance situation of the developing countries.

On the whole it can be said that the developing countries were less well-prepared for the realignment of the international monetary system than the industrialised countries. In many cases there was a lack of sufficiently developed financial markets, of relevant institutions and of the necessary know-how essential for implementing an efficient monetary policy. Since considerable disruptions in the international economy were induced by the transition to a system of flexible exchange rates, the new system made great demands on its members with regard to flexibility and adaptability. At the time of the transition almost all the developing countries pegged their currencies at fixed rates to single currencies of industrialised countries. Only their

negative experiences with this led them to switch to currency-basket pegging and various forms of floating.

The concern expressed by the developing countries themselves towards the negative effects of a system of flexible exchange rates on the economic variables in their countries is partially supported by theoretical deliberations.³ This is particularly the case with regard to the effects on the variability of effective exchange rates, the change in import prices due to currency changes by importing countries, the development of the terms of trade, the development of the volume of trade, the concentration of trade within one currency group, the foreign investments and the development of gross

³ Cf. H.-P. Nissen, K. Behling: Auswirkungen des Systems flexibler Wechselkurse auf die Entwicklungsländer (Effects of the System of Flexible Exchange Rates on the Developing Countries), in: Federal Ministry of Economic Cooperation: Research Reports, Vol. 6, Munich, 1981, p. 40 ff.

Table 3
Results of the Hypothesis Tests per Group of Developing Countries¹

Hypothesis Test	Period	Dollar Countries		Franc Countries		Sterling Countries		SDR Countries		Basket Countries		Floater Countries		Indicator Countries			
Variability of the effective exchange rates	I ²	1.522		0.493				1.417		2.295		Joint result including Sterling group				Mean square deviation	
	II ²	1.773		0.612				4.602		3.185							
Change in import prices due to change in exchange rate policies by importing countries	I ³	-0.5		0.9		1.7		0.2		-		-		-		Average percentage change	
	II ⁴	-1.1		0.6		4.6		-1.6		-		-		-			
Terms of trade development	I ³	0.9		2.0		2.0		0.8		-1.4		1.4		1.2		Average percentage change	
	II ⁴	3.2		7.2		-4.9		6.7		1.9		-2.9		1.5			
Development in volume of trade (average percentage change)	I ³	X ⁵	M ⁶	X	M	X	M	X	M	X	M	X	M	X	M	As compared with world trade X M 11.3 18.3 11.2 19.8	
	II ⁴	8.3	7.2	9.1	8.1	4.5	13.5	2.6	3.7	5.5	8.0	10.5	0.9	10.4	19.8		
Concentration of trade within one currency group	I ³	X De-	M In-	X M Decrease		-		-		-		-		-		Long-term trend	
	II ⁴	crease	crease			-		-		-		-		-			
Foreign investments (share of the total foreign investments)	I ³	43.4		3.1		0.5		0.5		7.8		32.2		12.5		Σ 100 100	
	II ⁴	26.9		3.6		0.1		2.4		15.1		22.2		29.7			
Development of GDP	I ³	4.4		4.5		4.9		5.1		5.6		5.9		4.3		Average percentage change	
	II ⁴	4.1		4.6		3.2		3.3		6.6		5.2		5.5			

¹The developing countries were split up according to their respective exchange rate policies (pegging to single currencies, currency baskets or floating). Those developing countries which changed their exchange arrangement during the period 1973-1977 are treated separately. The various economic variables under investigation were then assigned to this categorisation of the developing countries in individual hypothesis tests for the periods I (1966-70) and II (1973-77) respectively. The reference period 1966-70 merely serves an illustrative purpose for most of the hypotheses under examination.

² In this test the exact compared periods are as follows: I = 1/67 - 3/73
II = 4/73 - 12/78.

³I = Period 1966 - 1970.

⁴II = Period 1973 - 1977.

⁵X = Exports.

⁶M = Imports.

domestic product, the real value of foreign exchange reserves and the indebtedness of the developing countries.

All currency groups registered greater exchange rate fluctuations in the 1973-78 period than during the period 1967-73. The variability of the SDR group, however, was the largest, followed by those developing countries with a sterling peg, a basket peg, floaters and those with indicator-linking. The US dollar area was next on the list, whereas the franc zone proved to be by far the most stable of all currency areas.

Sterling countries revealed a large, franc zone countries a slight, increase in import prices. Both US dollar and SDR countries were able to reduce their import prices. As regards the terms of trade, the sterling countries and the floaters exhibited negative, all other countries positive, developments. The order of the worst through to the best result is as follows: sterling countries, floaters, basket peggers, indicator linkers, US dollar area, SDR countries, French franc zone.

In spite of the flexible exchange rate system, the increase in the developing countries' volume of trade between 1973 and 1977 was above the average of international trade as a whole, whereas 1966-70 it was below average. This general development is due to the trend towards improvement in the developing countries' terms of trade. The biggest raw materials boom since the Second World War and the accompanying upsurge in prices took place during the second period under investigation. Only the sterling countries on the exports and imports side and the floaters on the exports side remained below the comparable levels in international trade as a whole. The best results in exports were achieved by the franc zone and the SDR countries. The highest rates of increase for imports were to be found among the floaters and the US dollar countries.

In the franc zone there was a shift in trade, for both exports and imports, towards countries outside this currency area. The dollar countries registered a relative increase in intra-group exports; imports, however, here too revealed a movement away from the currency group.

The SDR countries, the indicator-linked countries, the basket countries and the franc zone were able to increase their shares of total foreign investments in all developing countries. Sterling countries, US dollar countries and floaters, on the other hand, registered a decrease of their respective shares in investment.

In the sterling countries, SDR countries, floating countries and the US dollar area the growth of gross domestic product between 1973 and 1977 was lower

than it had been in 1966-70, whereas the indicator-linked countries, the basket countries and the franc zone showed higher growth rates in 1973-77.

It was not so much the basic flexibility of the exchange rates that affected the developing countries' foreign exchange reserves and their indebtedness, but rathermore the fact that most developing countries hold their foreign exchange reserves in US dollars and pounds sterling, both of which underwent considerable devaluation during the 1973-77 period. The structure of indebtedness, on the other hand, differs from the structure of reserves, the debt service often having to be paid in "harder currencies", which led to a decrease in the purchasing power of the currencies.

Both the group with the best empirical results (the franc zone) and the group with the worst (the sterling countries) belong to the group of developing countries linked to an industrialised country's currency. An analysis of the general economic framework for monetary policies in both these groups provides the following results:

□ The pegging of a developing country's currency to that of an industrialised country is to be recommended if the developing country's trade is concentrated on this industrialised country, if the rates of inflation in both countries do not appreciably diverge from each other and if the industrialised country's exchange rate vis-à-vis the currencies of the developing country's other trading partners assumes a middle position, creating a generally stable currency area for the developing country in question. Should these preconditions be met by the developing countries of any one region then the concerted pegging of their currencies to that of the industrialised country would be advantageous to integration.

□ If, on the other hand, the regional pattern of foreign trade is relatively diversified, it would, with a view to minimising external disturbances, be more advantageous for the developing country to peg to a currency basket. An optimal fulfilment of this objective would be guaranteed by choosing an individual currency basket. The standardised SDR basket, on the other hand, would only then be optimal if the regional pattern of the developing country's foreign trade corresponded to the SDR's currency composition. An advantage of an SDR peg is that mutual cooperation would be enhanced by the unified and simplified handling.

□ Floating should be opted for by those developing countries with not only diversified regional patterns of foreign trade but also extensive and well-developed financial and capital markets.

The following trends in the exchange rate policies of the developing countries have been observed since the introduction of flexible exchange rates between industrialised countries:

- There is an increasing variety in exchange rate policies employed by developing countries. They are not moving towards a uniform régime, but rather more towards increased heterogeneity.
- The exchange rate régimes are progressing from relatively simple forms of pegging towards increasingly complex exchange arrangements (e. g. individual currency baskets and indicators).

By diversifying their exchange rate policies the developing countries are quite obviously attempting to maximise their own individual benefits or at least to minimise their expected costs (resulting from the industrialised countries' exchange rate flexibility). These objectives will not be attained by ad hoc decisions on monetary policy. Long-term political experience and empirical observation is obviously necessary. In other words: the trial and error process in exchange rate policies is nowhere near completion.

The fact that such attempts to obtain individual, optimal solutions creates a generally more obscure and more complicated monetary system, which could lead to a sub-optimal result for the developing countries as a whole, is overlooked. One conceivable mutual arrangement would be to peg all the developing countries' currencies, with the exception of the floaters, to the SDR.

A pegging of virtually all developing countries to the SDR as a standard basket of currencies would have the following advantages:

- The value of the SDR is calculated daily by the IMF. Thus the developing countries have no technical problems here. The basis and methods of calculation are clear and unambiguous.
- The exchange rates between developing countries and industrialised countries as a whole would be relatively stable, since the SDR is weighted in such a way as to compensate largely for any appreciation or depreciation of the industrialised countries' currencies.
- The exchange rates of developing countries among one another correspond in practice to a system of fixed exchange rates. This would support an intensification in South-South trade relations.
- The adoption of the SDR as an international accounting unit is a political move which could initiate further steps towards developing the SDR into a central medium for monetary policy. It would then, for example, be easier to draw up commodity agreements on an SDR basis.

□ An increasing extension of the SDR as an internationally accepted accounting unit would also serve to pave the way for its acceptance as a factor of international liquidity, initially via replacing the industrialised countries' reserve currencies.

□ The quasi-fixed exchange rates for developing countries as a result of a concerted SDR peg would induce, as does every system of fixed exchange rates, a comparatively high demand for international liquidity. This could be made available to the developing countries in the form of newly created SDRs, whilst the industrialised countries with their flexible exchange rates tend to have a lower liquidity requirement. A new variant of the "peg" could thus be indirectly established.

□ Ultimately, the developing countries themselves have the decisive monetary parameter, i. e. a uniform peg to the SDR, in their own hands.

Such a decision does not imply a quasi-automatic development of the SDR from an accounting unit to a medium of international liquidity, but it would represent a first, significant step by the developing countries themselves in this direction. A disadvantage of a concerted SDR peg lies particularly in the fact that the entire system is initially geared to individual exchange rate régimes so as to enable each developing country to take the best possible course in matters relating to exchange rates. As a rule the SDR currency basket differs from individual, optimal baskets. The adjustment to the SDR peg thus entails costs.

The more the SDRs are established in the international economic context (for example, interlinking of commodity markets, of international liquidity, etc.), the less the costs will be. During the transitional period these costs could, for example, be covered by the IMF: by means of special credit facilities or drawing rights (similar to the export earnings stabilisation scheme), which would be granted to those developing countries receiving sub-optimal foreign exchange earnings due to the SDR peg. The method could be similar to the one already existing to compensate for fluctuations in export earnings: the results actually obtained using the SDR peg would be compared with the imaginary results of a previously calculated optimal currency basket. If the divergence is beyond a certain threshold value, the afore-mentioned facilities will come into operation. Thus the actual foreign trade transactions are based on SDRs (similarly to international prices in the export earnings stabilisation scheme), while the IMF compensatory drawings or credit facilities are based on fictitious exchange rates, with the complexity of which the economy is not burdened.