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Real Exchange Rate Changes and Exchange Rate Policy under Economic Transformation in Hungary and Central-Eastern Europe¹

1 Introduction

While the mainstream literature on the stabilization and transformation of the former socialist, presently transition, economies of Central and Eastern Europe (CEE) has devoted much attention to the choice of an exchange rate system, as well as to the relationship between exchange rate policy and monetary policy, issues related to real, as distinct from nominal, changes in exchange rates seem to have received less interest². But the issue of changes in the real exchange rate (RER) has become rather controversial in discussions about exchange rate policy in some of the countries of the region³. The countries concerned are those that are relatively developed and have achieved a measure of relative macroeconomic and exchange rate stability. These countries, namely the Czech and Slovak Federal Republic (CSFR), Hungary and Poland went the furthest among countries of the region in liberalizing the domestic and foreign sectors of their economies and in implementing de facto resident convertibility of their currencies⁴. This paper focuses on the experiences of these three countries (referred to as the "three"), but in particular on those of Hungary. The problems and challenges facing the other transition economies of the region – relatively less developed and, at least presently, less stable – differ in many respects from the ones the Three have to deal with. For example, in the other countries, most notably in Russia, the immediate concern is the free fall of the domestic currency in the foreign exchange (auction) market. In contrast, the nominal exchange rates of the three countries in our focus display

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² Nevertheless, there are important exceptions. See e.g. PlanEcon (1992); Bruno (1992); Berg and Sachs (1992).

³ See e.g. Hrnčíř (1992), Kopint-Datorg (1992) and Winiecki (1992) on the CSFR, Hungary and Poland respectively.

⁴ Until the outbreak of the civil war, the former Yugoslavia also went a long way towards liberalizing its economy. The former GDR after the currency union with an extremely over-valued exchange rate, institutional shock therapy and the vast resource inflow from the Western part of the country is in no way comparable to other countries of the region. The stabilization and liberalization efforts in Slovenia and Estonia, though apparently successful, are too fresh to offer grounds for comparison.

Table 1.

Exchange Rate Indices 1985 = 100

Hungary	I/1988	II	III	IV	I/1989	II	III	IV
real-effective exchange rate	83	83	82.8	82.9	85.8	81.3	84	83.8
nom.in.effective exchange rate	78	79.9	79.9	80.1	82.8	78.8	82.3	84.8
relative price index	103.41	103.88	103.83	103.50	103.87	103.44	102.07	98.82
Poland	I/1988	II	III	IV	I/1989	II	III	IV
real-effective exchange rate	49.5	51.4	52.4	50.9	60.6	58.8	64.2	52.5
nom.in.effective exchange rate	32.8	29.3	29.1	27	26.5	20.7	15.7	5.8
relative price index	150.91	175.43	180.07	188.52	228.68	274.40	408.92	937.50
Hungary	I/1990	II	III	IV	I/1991	II	III	IV
real-effective exchange rate	80.7	83.3	88.7	90.2		97.2	100.8	98
nom.in.effective exchange rate	80.3	79.4	78.3	77.7	70.1	72.8	73.7	70.2
relative price index	100.50	104.91	110.73	116.09		133.52	138.50	139.60
Poland	I/1990	II	III	IV	I/1991	II	III	IV
real-effective exchange rate	40	48.3	50.1	54.5	69.9	77.7	74.5	72.9
nom.in.effective exchange rate	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.7
relative price index	2222.22	2683.33	2783.33	3205.68	3883.33	4318.67	4382.35	4288.24
Hungary	I/1992	II			M4	M5		
real-effective exchange rate	100.4	102.3			103.5	102.9		
nom.in.effective exchange rate	73.4	77.9			78	78.3		
relative price index	138.78	131.32			132.69	131.42		
Poland	I/1992	II			M4	M5		
real-effective exchange rate	74.3				72.1	71.9		
nom.in.effective exchange rate	1.8				1.8	1.8		
relative price index	4643.75				4508.25	4483.75		

either relative (Hungary and Poland) or, for the time being at least, absolute stability (CSFR); in the parallel (black) markets, where they exist, there are no sizable premiums on foreign rates of exchange.

For all of the three economies, the available indicators of real exchange rate changes show an upward movement, though the time profile and the measure of the real appreciation is different for each of the countries. (See Tables 1 and 2 and Charts 1 and 2). In spite of the differences, to be addressed later, the issues that have arisen in discussions on the phenomenon of real appreciation, just as on the underlying economic factors, involve a number of similarities.

The disputes concern three interrelated, but distinct, questions. The first pertains to methodological and partly technical issues, i.e. the proper measurement of real exchange rate changes in general, and those of transition economies in particular. The second concerns conceptual problems regarding the interpretation of the measured RER changes. The third relates to the policy implications of movements in RERs. The paper wishes to address these questions in sections III–V below.

In the background of the discussions on these questions there are many similarities in economic trends and conditions in the three countries. First, in each of them there was a very rapid liberalisation of trade. Although, in contrast to the shock approach implemented in the CSFR and Poland, Hungary is considered to have pursued a gradual strategy, actually by international comparison all the three countries opened up their economies very rapidly; especially in view of the exceptionally powerful protection these countries had previously provided their industries prior to liberalisation. A distinctive element that may be considered as a part of the protection in each of the countries was the special trade and payments arrangements they had with their Eastern trading partners. The formally multilateral, but actually bilateral, arrangements in the CMEA system offered the producers of the member countries markets almost completely sheltered from international competition. The demise of this system and the accompanying collapse of intraregional trade occurred in conjunction with the rapid dismantling of the protection that had been accorded to their industries. Since views concerning the impact of these changes on the required movements in exchange rates differ, one of the themes to be discussed in this paper is the effect of import liberalisation and the collapse of the CMEA markets on "warranted" (i.e. economically justified) RER changes.

A further similarity in the three countries is their surprisingly favourable recent foreign trade and payments performance. Capital inflows – most notably in Hungary's case, but in that of the other two countries as well – contributed to an increase in international reserves. Trade performance is considered to have been surprisingly good, because in spite of the large drop in exports to the Eastern markets, the trade balance deteriorated much less than originally expected.

These favourable developments in the external sector seemingly fully justify the aforementioned upward movements in RERs. So does a further common feature of these countries: the very large difference between the purchasing power parity (PPP) and the exchange rate of their currencies, indicating a very significant undervaluation of these currencies relative to their PPPs.

Table 2.

Effective exchange rates of the CSK

Indexes (January 1990 = 100)

	CSK/USD ¹	1	2	3	4
1990/1	16,29	100,00	100,00	100,00	100,00
2	16,60	98,13	100,00	100,43	97,71
3	16,72	97,43	100,00	100,69	96,76
4	16,67	97,72	100,40	100,87	97,26
5	16,64	97,90	100,70	101,09	97,52
6	16,58	98,25	101,00	101,35	97,91
7	16,37	99,51	107,50	101,52	105,37
8	15,89	102,52	110,90	102,07	111,39
9	15,71	103,69	114,30	102,64	115,47
10	20,18	80,72	115,50	103,31	90,25
11	23,63	68,94	115,60	103,26	77,17
12	24,19	67,34	115,70	103,32	75,41
1991/1	27,65	58,92	145,60	103,99	82,49
2	27,24	59,80	155,80	104,22	89,40
3	28,74	56,68	163,10	104,24	88,69
4	29,94	54,41	166,30	104,59	86,51
5	30,12	54,08	169,70	104,91	87,48
6	30,89	52,74	172,60	105,39	86,37
7	31,00	52,55	172,60	106,01	85,55
8	30,53	53,36	172,50	106,15	86,71
9	30,03	54,25	173,00	109,80	85,47
10	29,89	54,50	172,90	106,67	88,34
11	29,15	55,88	175,60	107,09	91,63
12	28,55	57,06	177,70	107,18	94,60
1992/1	28,36	57,44	179,50	107,50	95,92
2	28,78	56,60	180,40	108,06	94,49
3	29,16	55,86	180,90	108,52	93,12
4	29,06	56,06	181,79	108,73	93,72

Indexes (May 1990 = 100)

	CSK/USD ¹	1	2	3	4
1991/5	30,12	100,00	100,00	100,00	100,00
6	30,89	97,51	101,71	100,45	98,73
7	31,00	97,16	101,71	101,06	97,79
8	30,53	98,66	101,65	101,19	99,11
9	30,03	100,30	101,94	104,69	97,67
10	29,89	100,77	101,89	101,68	100,97
11	29,15	103,33	103,48	102,08	104,74
12	28,55	105,50	104,71	102,17	108,13
1992/1	28,36	106,21	105,77	102,47	109,63
2	28,78	104,66	106,31	103,01	108,01
3	29,16	103,29	106,60	103,45	106,44
4	29,06	103,65	107,12	103,64	107,13

¹ Monthly average values

1 = Nominal effective exchange rate of CSK

2 = Consumer prices of Czechoslovakia

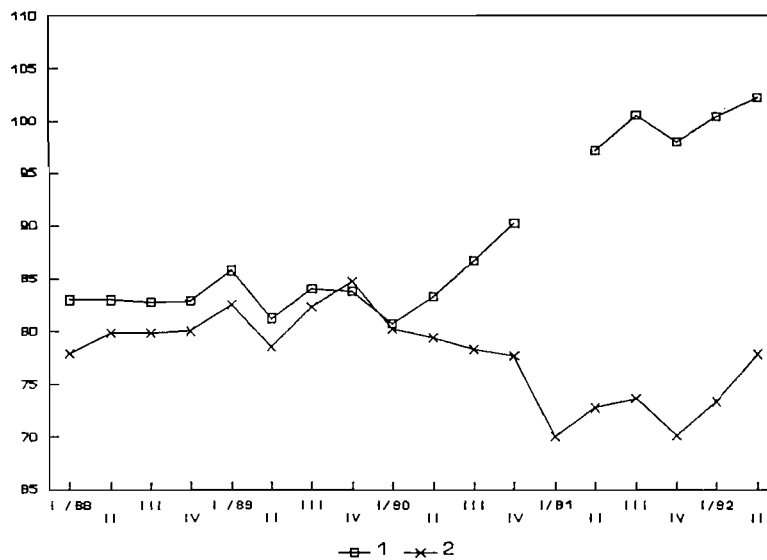
3 = Consumer prices of basket countries

4 = Real effective exchange rate of CSK

Source: Hrnčič (1992)

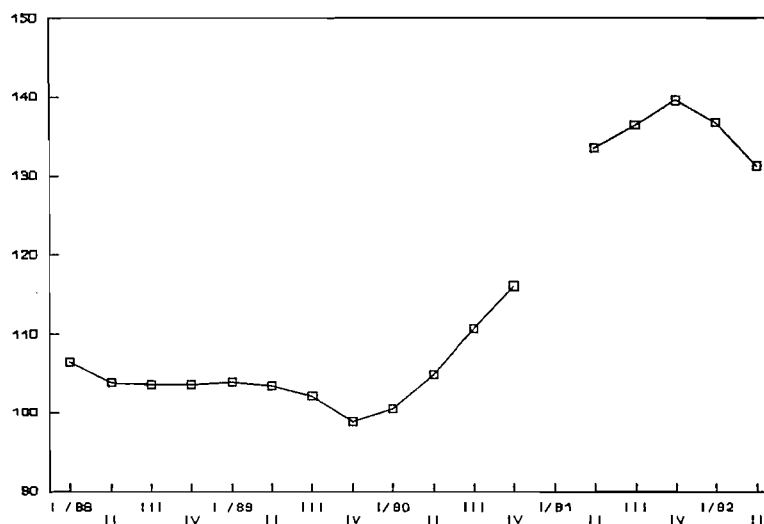
Chart 1a

Hungary Nominal and Real Effective Exchange Rates



1 Real exchange rate (based on CPI)
2 Nominal exchange rates

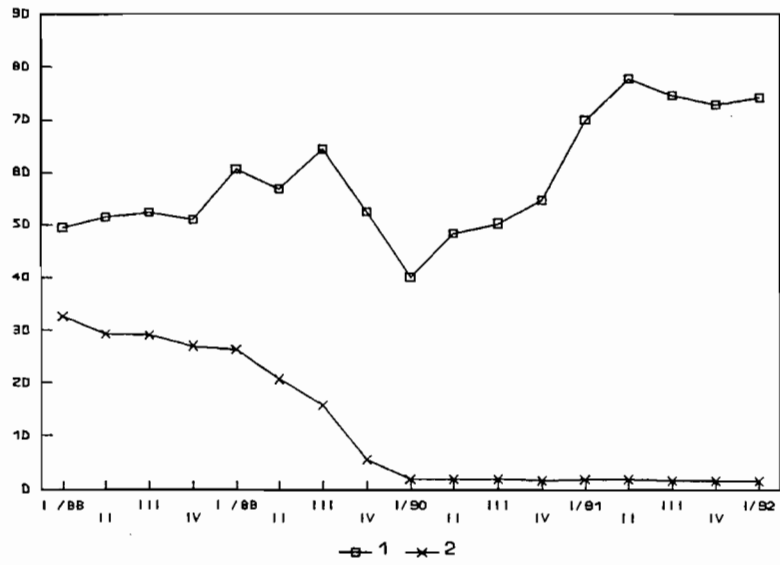
Hungary Relative Price Indices (CPI)



Source: See Table 1.

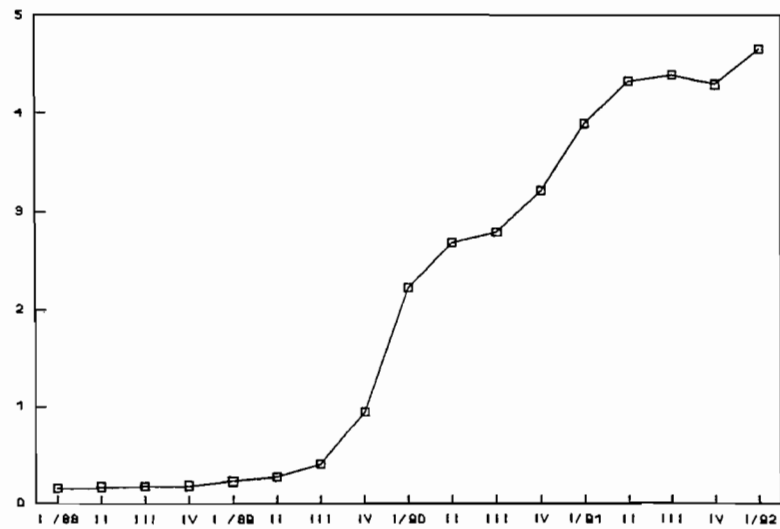
Chart 1b

Poland Nominal and Real Effective Exchange Rates



1 Real exchange rate (based on CPI)
2 Nominal exchange rates

Poland Relative Price Indices (CPI)

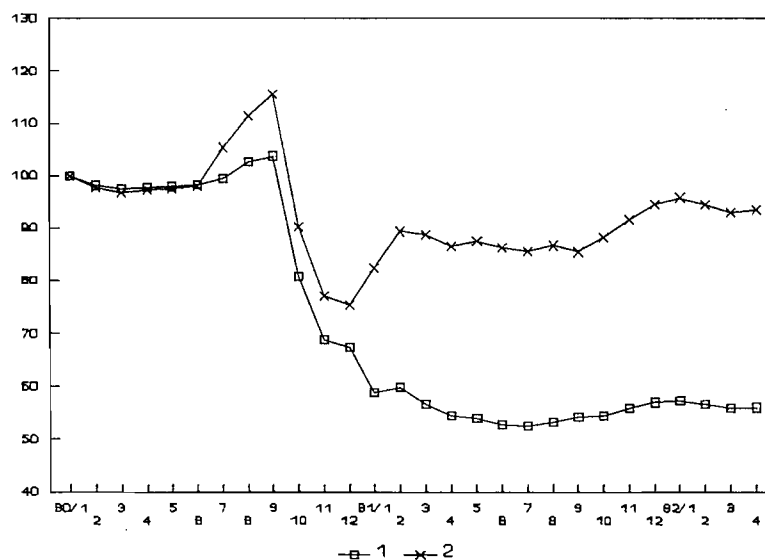


Source: See Table 1.

Chart 2

Effective Exchange Rates of the CSK

January 1990 = 100



- 1 Nominal exchange rate of the CSK
2 Real exchange rate of the CSK

Source: See Table 2.

However, both of the factors that may contribute to the real appreciation of the currencies under discussion and, by implication, might justify this trend, are subject to further considerations. On the one hand, the impressive trade and payments performance of these countries has been closely associated with the sharp decline in economic activity, involving a substantial and prolonged drop in production (especially that of industry), as well as a significant increase in unemployment. Moreover, the remarkable improvement of the balance of payments, at least in two of the three countries considered, has been partly due to the inflow of foreign capital, the nature and longevity of which requires further analysis. On the other hand, the interpretation of the massive deviations between PPPs and exchange rates also deserves further study. Although it is very likely that the scope of the current differences ought to decrease as these countries are drawn closer – both in terms of institutions and income levels – to Western market economies, it is by no means self-evident that this is to be seen as a short term process. The case may be just the opposite; that is to say, in the short or even medium run, but especially at the early stages of economic transition and in the deep economic slump that now obtains in these countries, the temporary maintenance of the existing differences between exchange rates and PPPs may be economically justified and, therefore, constitute a legitimate goal for exchange rate policy.

This brings us to our final introductory topic: exchange rate policy proper. The discussions and controversies over the fundamental determinants of the exchange rate levels and changes become practically relevant through their

influence on exchange rate policies. Even if it is true that in the long run exchange rates are determined by "fundamentals", i.e., by underlying economic factors, in the case of a pegged exchange rate it is the perception of policy makers that has the most significant short-run influence. Therefore, the role of the exchange rate as a policy instrument demands special consideration.

In all of the three countries, at one time or another, the goal of controlling inflation came to the foreground; exchange rate policy was seen as an adjunct to this goal. This is true to a much lesser degree for Poland after May 1991, when the fixed rate was abandoned, after which a crawling peg was introduced in October 1991, following a substantial increase in domestic prices. But in the CSFR in particular, and in Hungary as well, the exchange rate has become to an increasing extent a major instrument for combating domestic inflationary pressures. Whereas in the CSFR the rate fixed in late 1990 has served as a nominal anchor in the tidal wave of inflationary pressure that came with price liberalisation, in Hungary it became the most important policy device for reducing inflationary expectations and inflation itself. In the case of the latter there was a further argument presented in favour of an exchange rate policy aiming at real appreciation, according to the which the burden of foreign debt and debt service expressed in domestic currency could be reduced – at least in relative terms – by a rise in the real exchange rate. Though indirectly, this view also concerns the anti-inflationary role of exchange rate policy.

This paper reviews some of the issues presented above concerning real exchange rate changes and their implications for exchange rate policy in the three countries under consideration. Although we focus on the experiences of these three countries, and in particular on Hungary, we also look at some general issues concerning exchange rate policy during the transition. The particular features of individual countries will be compared and, if appropriate, contrasted with each other and with those of other transition economies.

This paper should be considered as a preliminary attempt to treat these questions. The discussion is informal and, except for the inclusion of the relevant data, not quantitative. The paper is organized as follows. In the next section we deal with some of the similarities and differences in the countries' initial conditions and their relation to other countries of the region in terms of exchange rate system and related policy framework. In the third section issues concerning the measurement and interpretation of RER changes are discussed. Next, the specific problems of RER movements in transition economies are treated. This is followed by a review of the potential impact of import liberalization and of the special factors behind trade and payments developments. The final section treats the relationship between PPPs and exchange rates in the three countries, discusses its relevance for exchange rate policies and draws some conclusions.

2 Economic Transition and Exchange Rate Developments: Some Preliminary Considerations

2.1 Exchange Rates in Traditional and Modified Centrally Planned Economies

In the typical centrally planned economy (CPE) the official exchange rate had no economic role whatsoever. It served statistical purposes (it was used for expressing the "devisa equivalent" of foreign trade transactions), but it did not function as an exchange rate. It influenced neither export revenues or import costs in the domestic currency, which were determined by the price equalization system⁵. Comparing the official exchange rate to the (tourist) black market rates, it may have seemed logical to conclude that the official rate over-valued the currency. This seemingly logical inference, however, would have missed the point, since the "overvaluation" of the currency can be interpreted only in regard to conversion factors that perform at least some of the functions of an exchange rate. But in the traditional CPE no such concept could be interpreted, at least not for foreign trade and payments. Whatever level it assumed, the official rate had no effect on trade flows⁶. In those economies of CEE that were characterized by the traditional mode of central planning at the start of the transition, an important first step in the stabilization and transformation programme was the establishment of an exchange rate⁷. The establishment of an exchange rate in all cases involved a substantial devaluation of the official rate; but, as indicated, these cannot be interpreted as adjustments of already existing exchange rates.

The situation was different in Hungary and Poland where, as a result of partial reforms of the traditional central planning introduced earlier (in the late sixties and early eighties, respectively), commercial exchange rates had been set. True, these were not uniform de facto, since an extensive system of export subsidies and import controls was tied in with exchange rates. However, in the case of these reformed, or "modified", centrally planned economies (MCPEs) certain concepts and models of exchange rate determination and the entailed effects of exchange rate changes

⁵ The essence of the price equalization ("preisausgleich") system is that producers of exports and users of imports, receive and pay, respectively domestic accounting prices, that could be — in fact, were — quite different from foreign prices converted at the official exchange rate. See eg Wolf(1988) and Wiles (1969)

⁶ Though this statement holds as a general proposition, it requires some qualifications. As pointed out e.g. by Schrenk (1991) and Lawson (1988), a change of the official exchange rate could have macroeconomic effects by influencing the net position of the price equalization fund.

⁷ It is worthwhile clarifying two related concepts at this point. One, economic transition, means here the abandonment of central planning (i.e. the Soviet-type economic system). This concept does not in itself imply anything regarding the direction of change; it simply indicates discarding the old system. The other, stabilization, is in itself unrelated to reform and systemic transformation. However, in each of the countries of CEE the recent stabilization programmes were based on policies and instruments that are fundamentally different from those applied in traditional Soviet-type economies; therefore, stabilization can be regarded as a starting point of transition.

started to make sense⁸. For example, the concept of overvaluation of the currency at the commercial exchange rate became relevant; the trade regime could be interpreted as one based upon a multiple exchange rate system and the effects of exchange rate adjustments on the trade balance became a relevant issue. However, in spite of these significant changes, partly because of the general characteristics of the MCPes (limited autonomy of microeconomic agents, price controls, underdevelopment of financial intermediation etc) and partly due to the features of the trade regime, the role of the exchange rate remained limited even in those countries that moved furthest towards "marketizing" the Soviet-type economic system. As for the trade regime, even the most "marketized" economies (Hungary and Poland) remained exceptionally closed in terms of institutions and trade policy. There were several insulating features. First, there was the system of import controls, i.e. formal and informal quantitative restrictions on foreign purchases⁹. Second, the state foreign trade organizations, were also involved in checking imports. Third, and of particular importance, the state trading system in conjunction with the CMEA offered sheltered, secure markets for a significant part of domestic output, in particular for industrial production. These features resulted in a limited role for the commercial exchange rate in MCPes as well.

Therefore, in order that the exchange rate perform its proper role, in MCPes two tasks were necessary. First, macroeconomic balance had to be achieved and the misalignment of the commercial exchange rate deriving from macroeconomic causes (excess domestic demand at the ruling official exchange rate) corrected. It is not likely that this could be accomplished gradually; it had to be done in one single step. The second task pertains to the institutional framework of exchange rate policy, most importantly to the degree of liberalization of foreign trade. The proper approach to opening up these economies is far from being self-evident. Several authors, including the present one, hold that there are persuasive arguments for the gradual opening up of extremely protected economies such as those of the transition countries of CEE¹⁰. Nowadays, however, the accepted view seems to be that import liberalization ought to be carried out as rapidly as possible. We return to this point in section V; for now, suffice it to say that the radical and instant opening up of (as often stated: the immediate introduction of convertibility in) tightly closed economies has no historical precedents. It is likely to involve significant economic and social costs, especially if accompanied by the collapse of a large previously-protected foreign market. Nevertheless, the nature and magnitude of these costs, as compared with the potential benefits of a radical opening up, is subject to controversy. From the point of view of the present paper, however, it is not the general economic and social costs that are relevant, but rather the impact of the above factors on exchange rate policy in general and on the extent of devaluations in particular.

⁸ On the concept of MCPE and related effects of devaluations see e.g. Wolf(1985)

⁹ See Gács (1991).

¹⁰ See e.g. Levčik (1991), McKinnon (1991), Köves-Oblath (1991) and Oblath (1991).

2.2 Factors Affecting the Initial Devaluation

It may be conjectured that at the start of the transition process, the magnitude of the initial devaluation of the official exchange rate depends on the following factors. First, and perhaps most important is whether or not a commercial exchange rate existed at all prior to the transition. If it did not exist, the primary task is the creation of an exchange rate either by the authorities or by economic agents. It should not be presumed that the participants in a newly established foreign exchange (auction) market have better information than the authorities as to what the "proper" level of the exchange rate is. To be sure, both are likely to pose very limited knowledge, especially regarding its medium- or longer-run level. Therefore, the initial devaluation is likely to depend on the parallel (black) market rate, which offers at least some guidance, however biased and distorted it may be. Since, as already mentioned, in the traditional centrally planned economies the official exchange rate had no economic role (its level was often fixed at some outmoded gold parity meant to express the "strength" of the currency), it is reasonable to expect that the creation of an exchange rate will normally involve a substantial devaluation. Its magnitude may be larger if left to the market because uncertainties over government policies, spill-over effects from other markets and the lack of other financial assets are bound to push the domestic price of foreign exchange to an artificially high level (see e.g. the early experiences of Bulgaria or the sharp depreciation of the rouble). However, if a country has no international reserves, it may have no choice but to let the currency float.

Second, the extent of the initial devaluation depends on the intensity of the inherited macroeconomic imbalances, in particular excess domestic demand. This, as is well known, may have two components: a "stock", often referred to as monetary overhang, and a "flow" deriving from either budgetary deficits or/and wage increases that are unsustainable at current price and exchange rate levels. It is worth noting that the second (flow) type of macro imbalance may well occur also in a market economy maintaining fixed exchange rates, though the latter would normally not have to deal with the peculiarities stemming from the prevalence of officially fixed (controlled) prices, and the magnitude of such an imbalance would likely be much smaller. At any rate, the problem in this case is in the incompatibility between the level (or growth) of aggregate domestic demand on the one hand, and that of the fixed exchange rate, on the other. To tackle this imbalance, it is necessary to devalue the currency and reduce domestic demand. Note, however, that this may be accomplished at any (e.g. unchanged) level of protection of the domestic economy.

This takes us to the third factor that may affect the initial extent of the devaluation: the change of the institutional setting, most importantly the trade regime. In this context, issues concerning two important and partly related matters are raised: the impact of trade liberalization on exchange rates and the collapse of Eastern (CMEA) trade. As for trade liberalization, it can be expected that, other factors being equal, the further an economy has been from an open trade regime

(i.e. the closer it has been to the traditional model of central planning¹¹) and the more swift and radical the trade liberalization, the larger is the necessary initial devaluation. This conjecture, in agreement with the standard literature of trade theory and policy¹², implies that a more gradual import liberalization and/or a transitory "tariffication" of former quantitative restrictions would require a smaller devaluation, than would otherwise be the case.

The impact of the collapse of Eastern trade is less clear-cut. While some implications of this shock indicate the necessity of additional devaluation (beyond that warranted by the foregoing factors), some others point in the opposite direction. Although we return to this point in section IV, some preliminary remarks are in order. On the one hand, the dramatic fall in exports to the former CMEA area necessitates the reorientation of this trade towards the West (at least a part of it), involving higher costs and/or lower prices – suggesting the necessity of further devaluation. The terms-of-trade shock associated with the switch from ruble (clearing) trade at CMEA prices to dollar trade at world prices as well as the resulting deterioration in the trade balance carry the same implication¹³. On the other hand, the large fall in exports to the East could contribute to an easing of the domestic imbalance (excess demand) and induce companies to explore Western markets. Furthermore, depending on the institutional details, in particular the former domestic cross rate between the dollar and the ruble, the switch could have even increased the home currency revenues of those companies that managed either to reorient their former eastern exports or to keep their eastern markets. All in all, the effect of the collapse of Eastern trade on the exchange rate is ambiguous, and without further inquiry, definite statements cannot be made.

Let us now try to apply the foregoing framework to the three transition countries in our focus. While Hungary and Poland, the two former MCPEs, already had commercial exchange rates before the transition, the CSFR introduced one only in 1990. The CSFR's economy had clearly been the most "closed" of the three. On the other hand, from the point of view of macroeconomic imbalances, it was perhaps in the best situation. In this respect, Poland clearly was in the worst state: before the stabilization and liberalization programme its inflation approached rates associated with hyperinflation, with simultaneously increasing shortages. Hungary's domestic market in turn was relatively stable (at the cost of very large foreign indebtedness) and it probably went the furthest among countries of CEE in reforming its economy under the pre-democratic political system. In the present context, it is particularly noteworthy that, beginning 1989, Hungary implemented a significant trade liberalization programme aimed at removing administrative (non-tariff) trade barriers on 90 % of its imports in three years time – an objective that was accomplished in 1992. The other two countries chose a more radical approach to trade liberalization. Poland opened up its economy in one stroke and introduced the (resident) convertibility of its currency in early 1990. Although there

¹¹ The former inexistence of a commercial exchange rate may indeed be considered as an indication that the economy had approached the ideal type of "total closedness"; see Oblath (1988) on this point.

¹² See e.g. Corden (1987), Krueger (1978); Edwards (1992); Rodrik (1992)

¹³ Oblath-Tarr(1992)

are some differences in details between the two countries' trade and foreign exchange reforms, the similarities are more significant.

The foregoing help explain the similarities and differences in exchange rate changes and related policies in the three countries. Given Hungary's relative macro stability and gradual liberalization strategy¹⁴, there were no significant devaluations (the largest, 15 %, occurred in early 1991). In Poland and in the CSFR in turn, very large devaluations were effected. Although at the outset Poland was considerably more open than the CSFR, its macroeconomic imbalances were far more severe; and since both opted for a radical and rapid opening, in spite of their initial differences, both had to devalue their currencies drastically.

It should be noted that up to this point only nominal devaluations have been discussed. The real impact of nominal exchange rate changes depends on factors affecting domestic price changes following exchange rate adjustments; this issue is treated in the next section. There is, however, an important topic that may be addressed before treating the problems of real exchange rate changes: domestic price liberalization. If the formerly controlled prices are liberalized simultaneously with the devaluation, the change in the real exchange rate is necessarily much smaller than what might be expected without the removal of price controls. A crucial question here is whether a real devaluation is necessary in the context of the reform package, or would a nominal adjustment suffice. For reasons to be discussed, there are several conceptual problems with the precise interpretation of this question, but at least a preliminary assessment can be given. The more so, since Berg and Sachs (1992) explicitly address this matter; their answer is negative. On analyzing the Polish experience, they assert that in a situation characterised by large monetary overhang and price controls (and, as a consequence, shortages and queuing), a nominal devaluation accompanied by price liberalization solves the macroeconomic imbalance without a real devaluation. The point where their reasoning appears to be at odds with the implications of the framework presented above is in the impact of trade liberalization. While they claim that opening up (convertibility of the currency) requires just a nominal devaluation and price liberalization to absorb the overall excess demand (see, in particular, pp. 121-124), our framework builds on the assumption that opening up the economy necessitates additional devaluation as compared to the one required for restoring macroeconomic balance at an unchanged level of protection. This, though it has not been stated explicitly, implies that opening up warrants a devaluation in real terms.

The two views are not necessarily mutually exclusive. There are two potential ways to reconcile them; both are treated in the sections that follow. One is through rendering due attention to the effects of changes in the level of activity – an issue not even touched upon as yet. Thus it is conceivable that a stabilization package aimed at absorbing excess domestic demand and correcting macroeconomic disequilibria, combined with instant trade liberalization and nominal devaluation, results in so deep recession that the liberal trade regime turns out to be sustainable even without a real depreciation. The other possibility is that the conventional indicators of real exchange rate (RER) changes should not be taken at face value with respect to transition economies. We now turn to the problems involving the measurement and interpretation of RER changes.

¹⁴ It is worth noting that export subsidies have also been removed gradually, thus the former de facto multiple exchange rate regime was unified.

3 Real Exchange Rate (RER) Movements: Some Problems of Measurement and Interpretation

The measurement and interpretation of real exchange rate (RER) changes in general raises several difficult issues everywhere. Nevertheless, it is no exaggeration to say that the problems in the case of market economies seem trifling compared to those involved in quantifying and interpreting RER movements for transition economies.

3.1 What are RER Indices?

An RER index is calculated as the ratio of a country's exchange rate index to its relative price (or cost) index, the latter being the country's price or cost increase relative to that of foreign countries. Thus:

$$\text{RER} = R' / (P' / P_f')$$

where R' denotes R_t/R_0 , the exchange rate index (units of domestic currency per unit of foreign currency); and P' and P_f' are the domestic and foreign price indices, respectively ($P' = P_t/P_0$ and $P_f' = P_{ft}/P_{f0}$). If the country's exchange rate changes are measured not against a single currency, but against a basket of trading partners' currencies (the "effective exchange rate") and this is compared to the relative inflation (price or cost increase) vs. the average of the partner countries whose currencies are included in the basket, we get a measure of the change in the real-effective exchange rate. In this case R' and P_f' are interpreted as weighted averages of partner countries' exchange rates and cost(price) increase, respectively (i.e. $R' = \sum [w_i * (R_{ti}/R_{0i})]$ and $P_f' = \sum [w_i * (P_{fti}/P_{f0i})]$, where w_i represents the weight of partner country i). In the following, unless otherwise stated, RER changes refer to real-effective exchange rate indices. The RER index is interpreted as follows: a country's exchange rate is considered to appreciate in real effective terms if the nominal devaluation (or depreciation) of its currency is less than the country's relative inflation, or the nominal appreciation of its currency is smaller than the country's relative deflation, with respect to the average of its partner countries (i.e. $R' < P' / P_f'$). The opposite holds for real depreciation.

International organizations, most notably the IMF, routinely calculate and publish RER indices. However, among the transition economies of CEE the RER index is regularly published only for Hungary and Poland in the monthly issues of International Financial Statistics (IFS). Therefore, for the CSFR we shall have to rely on data from other sources, which may not be directly comparable to that of the other two countries. It should also be noted that the RER index published in IFS is the inverse of the one given above: an index number greater than 100 (or an increase in the index) represents a real appreciation, and vice versa for a real depreciation. In this paper we follow this intuitively appealing approach: we denote a real appreciation as an "upward", and a real depreciation as a "downward", movement in the real exchange rate.

3.2 Some "Technical" Questions

Generally speaking, there are three types of seemingly technical questions that have to be resolved when measuring changes in RERs. First, a choice has to be made as to whether the RER is calculated using just two currencies or all partner currencies, i.e. whether a bilateral or multilateral comparison is made. In the latter case, the question arises as to the proper basket (weighting system). As noted, we rely mainly on the latter concept, but, as it would lead us too far afield and, moreover, it is not specific to transition economies, we shall ignore the weighting issue in this paper. Second, a choice has to be made as to the relevant price (cost) index or indices. Third, the base period has to be determined relative to which the RER changes are measured¹⁵.

These questions are evidently not just technical; they are closely related to the conceptual issues in interpreting RER changes. In broad terms, RER indices reflect deviations of a currency's exchange rate from purchasing power parity (PPP). Given that RER indices are, by definition, ratios of index numbers, they are conceptually related to the relative version of the PPP theory. But this doctrine, even in its relative form, is not a single theory; it consists of several alternative theories¹⁶. An important aspect in which the various approaches differ is which price (cost) index is considered relevant for PPP computations. This underscores that the choice of the price index in RER calculations is likely to be more than just a technical issue. More to the point, the interpretation of RER indices requires either the acceptance of (some version of) the PPP theory, or a broader theoretical framework, involving the concept of an equilibrium exchange rate. This framework, in turn, would have to specifically address the role of relative prices (thus PPP) in the determination of the equilibrium exchange rate. By implication, not just the role of relative price changes would have to be clarified, but also that of the absolute PPP, specifically the relationship between price levels and exchange rates, as well as the association between exchange rate equilibrium and equilibrium relative prices (specifically between those of traded and non traded goods) in the home country.

Needless to say, this paper does not address all these issues. The purpose here was to demonstrate that the measurement and interpretation of RER changes raises a number of general conceptual and methodological problems even in market economies. In what follows, we show that the problems involved are yet more complex and difficult for transition economies.

¹⁵ On these issues see the thorough survey by Maciejewski (1983).

¹⁶ See Officer (1982) and Dornbusch (1985).

4 RER Changes and Economic Transition

In the case of the transition economies, three points deserve special attention: the distinctive problems associated with the selection and interpretation of the relevant price indices; the choice of the base period; and interpreting the structural factors related to, or affecting, RER changes.

4.1 Price Indices

As pointed out by Maciejewski (1983), there are at least as many choices regarding the "correct" price indices for calculating RERs as there are analytical or policy questions pertaining to price (cost) movements (expressed in a common currency) of a given country relative to the rest of the world. This is important because different price and cost levels in any country may change in different proportions, and so can the cross-country ratio of the various price and cost indices. There is, however, a special issue in the case of transition economies involving unusual problems, namely the liberalization of prices. Depending on the timing and the type of domestic price liberalization, producer and consumer price changes can deviate to a significantly larger extent than is normal for market economies. This, as shown in Table 3., holds the least for the CSFR, where some important consumer prices have still not been liberalized. In Hungary consumer prices consistently increased to a larger degree than producer prices as prices were being liberalized, whereas in Poland there was a significant difference between the rates of change of the two price levels in both years, but in the reverse fashion.

Table 3. **Consumer and Producer Price Indices**
(Previous year=100)

	1990		1991	
	CPI	PPI	CPI	PPI
CSFR	110	104	174	177
Hungary	129	122	135	129
Poland	685	722	170	148

Source: IFS October 1992

Therefore, depending on whether a producer or consumer price index is used in calculating the RER index and which particular sub-period is considered, quite different results may be obtained, indicating divergent movements in RERs. One reason why it is vital to be aware of this divergence is that the informational content of the two types of RERs – the one based on the consumer price index (CPI) and the other on the producer price index (PPI) – is quite different. With some simplification, the RER index based on relative PPIs may be considered to

reveal changes in domestic exporters' price or cost competitiveness in foreign markets. The RER index involving CPI comparisons in turn offers a rough indication of changes in domestic producers' price competitiveness vis-à-vis imports. This, of course, should be regarded as a very rough indicator, but nonetheless, it should be taken seriously, especially at a time of radical trade liberalization; we shall return to this point later. The other aspect of the divergence between the RER indices based on PPI and CPI comparisons has been amply treated in the international literature¹⁷: it may offer a rough idea of the change in the relative price of the tradeable relative to the non-tradeable sector in the domestic economy¹⁸. This relative price is an especially important one: it is often referred to as "the" real exchange rate in the theoretical literature (see Bruno, 1976; Dornbusch, 1988; and Neary, 1988). Its particular significance lies in the fact that changes in it affect the domestic demand for and supply of tradeable and non-tradeable goods (services), respectively; it influences relative profitability and therefore the incentives for investment in the alternative sectors – a central issue in transition economies¹⁹.

These observations are meant to call attention to some implications of applying alternative price indices for RER calculations and caution against judgements based on a single RER index. The case in point is using only the RER index based on PPI comparisons for evaluating exchange rate developments. This, as mentioned above and to be discussed later, might be a suitable indicator of changes in export price competitiveness, but in itself may turn out to be misleading. Beyond the actual choice among the available price indices²⁰, there is a further difficulty, quite specific to transition economies, concerning the computation and interpretation of RERs. This stems from the difficulty of comparing price indices between a period in which acute shortages prevail, with another in which the shortages have already been eliminated. The practical implication of this problem is that RER movements before and after the elimination of shortages (i.e. the pre- and post-stabilization periods) are not likely to be directly comparable. As a result, the presentation of RER indices as a continuous time series over the two periods may give rise to misleading interpretations. This is case because with the elimination (or significant alleviation) of shortages, various types of costs previously associated with e.g. queuing²¹ – evidently not included in the official price index – are also eliminated. This issue may be especially relevant for Poland (where, as we shall see, the RER appreciated to the greatest extent since 1990); less for the CSFR, and probably the least for Hungary.

¹⁷ See e.g. Aghlevli-Khan-Montiel (1991), Edwards (1992)

¹⁸ If traded goods prices were equalized internationally, the ratio of the price of traded goods to that of non-traded goods would move in line with relative CPI-s; see the derivation in Aghlevi-Montiel (1991).

¹⁹ This point was made especially forcefully by Winiecki (1992).

²⁰ Though the other price/cost indices (GDP deflators, unit labour cost index etc.) have not been treated, the dilemmas regarding their use may be traced to those already discussed.

²¹ See e.g. Kornai (1980)

4.2 Base Period

The final observation above on the problems of comparing RER movements between pre- and post-stabilization (liberalization) periods relates to our next issue: the choice of the base period. This perhaps is an even more difficult issue than the previous one. In order that the interpretation of RER movements not lead analysts and policy-makers astray, the base period should, at least in principle, be a period in which the actual exchange rate corresponds to its equilibrium value. Although the concept of an equilibrium exchange rate is far from unambiguous, most definitions associate it with an exchange rate consistent with both external and internal balance. External balance normally refers to a sustainable balance on the current account; internal balance is related to full employment or the "natural" unemployment rate. Understandably, the literature on equilibrium exchange rates does not consider the absence of general shortages as a component of the definition of "internal balance"²². The incorporation of the concept of "internal balance" is due to the recognition – presented first and most forcefully by Robinson (1936) and Harrod (1939) – that equilibrium in the balance of payments may be achieved at any (low) level of economic activity. For contemporary market economies, the significance of this element in the definition is related to the fact that while the balance of payments may be influenced by cyclical fluctuations in economic activity, the equilibrium exchange rate, at least if interpreted as its medium- or longer-term value, is not subject to such cyclical variations.

Evidently, it is not easy to identify real-world situations corresponding to the above definition of the equilibrium exchange rate. The less so, since neither the concept of external, nor that of internal, balance is really clear-cut. Nevertheless, there are pragmatic ways of forming rough judgements as to how far the exchange rates of certain OECD countries have deviated from their medium term levels in specific time periods. This is clearly not saying a great deal, but it certainly is more than what we can say about the level of exchange rates in transition economies, where the problem is not in the identification of a period of exchange rate equilibrium, but the certainty that in the past (i.e. under central planning) no such period could possibly have existed. This is clear enough in the case of countries where commercial exchange rates simply did not exist. But the statement holds also for MCPes, where, as discussed in section II, serious domestic and external imbalances and/or a large arsenal of non-tariff and non-market barriers to imports, as well as complicated and differentiated export subsidies, held sway.

The foregoing has both practical and theoretical implications. Practically speaking, the choice involving a pre-transition base period does not make much sense, or may lead to false conclusions. It may, of course, be interesting to look at the RER before and after significant stabilization and liberalization measures were introduced, but, as noted above, time series of RER indices for the transition period should not be interpreted simply as the extensions or continuations of pre-transition

²² Officer (1982) presents a comprehensive review of the historical evolution and alternative interpretations of the concept of an equilibrium exchange rate. We here bypass that branch of the literature which considers this concept irrelevant or misleading (e.g. Robinson, 1937; Balassa-Schydowski, 1968), but we certainly agree with Edwards' (1992) contention that "there is not a single equilibrium exchange rate".

time series, even if the price indices and weighting systems are the same for the two periods (the RER index is formally of the same type). Thus, the correct, or at least conceptually acceptable, base period would be one involving the identifiable beginning of the transition (or one immediately following it). This is easy in the case of countries where stabilization-cum-liberalization measures were introduced in a single policy package (Poland) or these measures followed each other within a short time span (CSFR). Hungary is a special case in this respect, since both reform and stabilization measures were introduced gradually and stretched over a longer period. Nevertheless, as we shall see, there are some signals, stemming from the sequencing of liberalization, that may assist in choosing among the potential base periods.

Turning to the theoretical implications, the most significant is that in the case of transition economies no proper standards exist for evaluating the level of the exchange rate. To put it differently, it is not simply difficult, but literally impossible, to interpret the concept of an equilibrium exchange rate in the pre-transition period, even in the very loose sense referred to above. That exchange rate, in turn, which is introduced as a part of a major reform package is not likely to represent an equilibrium rate; as a matter of fact, it is not meant to and, indeed, cannot possibly be one. It is worth recalling that the concept of an equilibrium exchange rate incorporates the notion of full employment (or natural unemployment rate); that is to say, some "normal" level of activity over the business cycle. Now, in the case of transition economies, it is hopeless to try to interpret either the "normal" level of activity, or "cyclical movements". The level of activity is falling everywhere in CEE, and since nothing can be known about its normal level, there are no clues as to whether the observed decline is already too large or further falls are still inevitable; and if so, how large these are supposed or expected to be. The relevance of this question, as we have already seen, stems from the fact that a sustainable external balance may be achieved at any (low) level of activity, and -- before turning to empirical matters -- one should be aware that there were good reasons for adding the "activity criterion" to the definition of exchange equilibrium.

Therefore, there are no solid grounds for assessing what constitutes an equilibrium exchange rate in an economy under transition. Except for very drastic misalignments, it is impossible to tell whether an observed rate is below or above its "normal" level. As a consequence, the question whether or not RER changes of particular currencies have already gone "too far" in either directions is more or less irresolvable. It is, or at least should be, possible, however, to look at current and past movements of RERs and form some judgement on the direction of change. When making a judgement, several factors are considered either explicitly or implicitly. In what follows we try to be explicit and present an overview of those "structural" factors that are likely to affect RER changes in the transition period.

4.3 Factors Influencing RER Movements

It is worth recapitulating: changes in RERs may offer relatively unambiguous guidance to the evaluation of actual exchange rate movements if the base period entails an equilibrium exchange rate, the alternative relative price indices do not deviate significantly and, most importantly, there are no such structural changes

which in themselves warrant RER changes²³. From the above it should be clear that neither of the first two conditions are fulfilled in the transition economies of CEE. In the following we concentrate on the third item: structural changes.

It should be emphasized at the outset that in this context two issues are actually involved. One concerns the explanation of observed RER movements. The other is related to the identification of factors that may affect the "warranted" changes in RERs. The two do not necessarily correspond to each other; at any rate, not in the short term. Actual RER changes, unless the currency is freely floating, are influenced mainly by decisions of policy makers regarding nominal exchange rates in the face of domestic price inflation (only partly under policy control, and itself a function of nominal changes in the rate of exchange). In case of a floating rate, the decision maker with respect to the change in the nominal exchange rate is the "market". But, as discussed, the participants in foreign exchange markets in transition economies may be driven to their decisions by the lack of financial instruments other than foreign exchange and their information on factors affecting the exchange rate is likely to be more limited than that of the official decision makers.

The term "warranted RER movements" is meant to express changes justified or required by underlying economic factors, be they taken into consideration by policy makers (or/and the market) or not. Note that, for reasons treated earlier, the concept of the equilibrium exchange rate is avoided. This is not just a difference in terminology. On the one hand, "warranted" changes in RERs may be influenced by factors not directly related to observed balance of payments (BOP) performance. On the other hand, as we shall try to demonstrate, factors affecting BOP developments may induce "unwarranted" RER movements. In the following, we first review the factors related to warranted RER changes; this may serve as a reference for explaining actual movements in RERs.

There are three major factors that, in principle, should have a significant impact on RER movements in the transition period. One is trade liberalization (treated in the next section) and the collapse of Eastern trade. The other is the elimination of various domestic and external impediments constraining these countries' exports to the West. The third is the "emancipation" of the service sector in the transition period.

As to the collapse of Eastern markets, there are three quite different sets of factors at work. One is the impact on the domestic currency costs and revenues of companies that used to trade with the CMEA countries; the reaction of these companies to the trade collapse in terms of their attempts to increase sales to the West; and the combined influence of these factors on the convertible-currency balance of trade in the countries concerned. The first and early assessment of these factors (see Table 5.) may lead to the conclusion that the overall trade performance of the "Three" following the demise of the CMEA trade arrangements was remarkably good, certainly much better than could be expected after a roughly 50 per cent decline in their exports to former CMEA partners. The other factor to be considered is the impact on the domestic price level (and by implication on relative price and RER movements) of the elimination of the special pricing system

²³ See e.g. Dornbusch (1985). The reader is reminded that the fourth related issue, the "appropriateness" of the weighting system for calculating real effective exchange rates, is not discussed in this paper.

associated with CMEA trade. As discussed and formally demonstrated in Marer-Oblath (1992), the existence of the peculiar trading and pricing system associated with the CMEA resulted in the extension of the "non-traded" sector to involve actually traded goods, but with prices differing from (lower than) world market prices. Looking at warranted RER changes from this angle, the switch to dollar trade and world market prices should contribute to the real appreciation of the currencies involved. Nevertheless, it is by no means evident that this factor is supposed to work in the short run. The third aspect related to the discontinuation of CMEA trade certainly offers a different indication: the abandonment of this special trade regime amounts to a much more extensive trade liberalization, than indicated by customary measures.

However, before discussing the effects of trade liberalization, it is worth taking a brief look at the other factors influencing warranted RER changes. The removal of various domestic and external impediments that formerly constrained exports is of particular importance. As for the domestic factors, the efficiency-enhancing effects of the elimination of the monopolistic position of foreign trade organizations (FTOs) in trading with foreign countries is likely to have a favourable impact on the relative cost and price position of domestic exporters. This factor, therefore, in and of itself would call for a real appreciation of the currency, as would the beneficial effects of trade liberalization with respect to the availability of imported inputs for export goods. As for the external factors, the dismantling of foreign trade barriers, in particular those of the EC, also point towards a real appreciation.

This conclusion may be reinforced by the required relative price changes within the countries. In each of the economies of CEE, services were substantially under-priced. What was referred to as the "emancipation" of this sector, also argues for the increase of its relative prices – pointing to the necessity of a real revaluation.

All in all, most factors considered thus far seem to point to the necessity of an appreciation of the RER in transition economies. However, the time horizon in which these factors are supposed to exert their influence is far from clear. Two of the major issues still have to be discussed in order to clear up this point. One is trade liberalization, and the other is foreign economic (balance of trade and payments) performance. But before reviewing these crucial issues, it is worth taking a look at actual RER developments in the three countries.

4.4 Actual RER Movements

As indicated by Tables 1 and 2 and Charts 1 and 2, RER indices based on consumer prices displayed a marked upward movement in both the CSFR and Poland following the implementation of radical stabilization-cum-liberalization programmes. (RER sources are the IFS for Hungary and Poland and Hrnčič, 1992 for the CSFR). The real appreciation appears to be more pronounced in the latter country. The reasons for this difference are related to the fact that while both countries decided to use the exchange rate as a nominal anchor during the introduction of major price liberalization measures, Poland did not, whereas Czechoslovakia did, succeed in promptly bringing down the rate of inflation. The CSFR still maintains the nominal exchange rate introduced in late 1990, at the

outset of its programme. Poland, in turn, had to give up its adherence to a fixed rate and introduced a crawling peg in 1991, in order to arrest the deterioration of its producers' international price and cost competitiveness.

The latest available RER indices in the two countries indicate a real appreciation of roughly 24 per cent in the CSFR and 80 per cent in Poland since the beginnings of their respective programmes²⁴. This is a significant difference indeed, even if account is taken of the fact that Poland started its programme one year earlier than the CSFR. It is possible, but not very instructive, to compare the RER index to its level in the pre-transition period. The real effective exchange rate of the koruna (CSK) is still somewhat below its level in early 1990, while that of the zloty has increased above the level prevailing in 1988-1989.

In Hungary, as already mentioned, there was no identifiable starting point to the transition; therefore, there is no single obvious choice regarding the base period. As shown in Table 1 and Chart 1, during 1988 and 1989 both the nominal and real exchange rates (based on consumer prices) were fairly stable. However, beginning in early 1991, a sharp upward trend can be observed. True, there was a real depreciation of about 13 per cent between 1985 and 1988, but since the first quarter of 1990, the real effective exchange rate of the forint appears to have increased some 27 per cent. The reason why early 1990 may have particular relevance as a base period is that this marked the start of the second stage of the country's trade liberalization programme, involving the liberalization (more specifically, de-licensing) of a major part of competitive imports. (In the preceding stage, namely in 1989, mainly non-competitive imports were liberalized.)

If producer, rather than consumer, prices are used to quantify RER changes, the real appreciation of the forint appears to be more modest. (See Table 3 for comparative change in the CPI and the PPI). It is the PPI that is used by the National Bank of Hungary for monitoring RER movements. However, as noted above, the content of the two indices differs and, especially in a period of large-scale import liberalization, due attention has to be given to the differences.

In the case of the other two countries, the CPI and the PPI do not display a consistent divergence (at least not for the two years reviewed). Thus, unless a specific and very short time span is surveyed, the divergence between the two indices should not fundamentally change the assessment regarding the CSFR and Poland.

Finally, the question naturally arises: how can the observed movements in RER-s be explained, and to what extent do they correspond to the warranted movements discussed above? Although we do not claim to be able to give definite answers, an attempt is made in the next section to address these fundamental questions as we turn to discussion of the impact of import liberalization and external performance.

²⁴ If the last quarter of 1989 is taken as the base period for Poland, the real appreciation is smaller, roughly 40 per cent.

5 Import Liberalization and External Economic Performance

Foreign trade liberalization was one of the most important measures introduced in the reform packages aimed at achieving economic transition; as a matter of fact it was often considered as being the cornerstone of liberalization policies. Nevertheless, the implications of very rapid and radical import liberalization in countries of CEE is still a subject of controversy.

In our interpretation, other factors being equal, it is inevitable that the drastic liberalization of imports be associated with, in fact compensated by, a real exchange rate depreciation. If this is not the case, and as noted, the empirical evidence certainly does not bear out this inference, then other, more powerful, counteracting factors have to be influencing RER changes. However, it should be important to clarify whether the counteracting factors are of a shorter- or longer-run character.

First, it may be useful to spell out the reasons why the RER is expected to depreciate as a result of wide scale import liberalization. One is that companies having been well protected (including the noted effects of CMEA trade) are not likely to become competitive unless the former protection built on administrative controls is, at least temporarily, replaced by market-oriented policy instruments. The first best solution is the introduction of provisional tariffs, but if this is not a viable alternative (as in the case of Hungary, see e.g. Oblath, 1991), then a real devaluation is necessary. Now, in both the CSFR and Poland some surcharges were introduced at the time of trade liberalization, but even so, their economies became the most open ones in Europe²⁵. Later on, the surcharges were reduced or expressly removed – indicating a larger real appreciation de facto, than indicated by RER indices only. Nowadays, in turn, there are indications that in both countries, and also in Hungary, pressure is mounting for increasing protection of domestic activities, and the authorities are likely to yield, at least to some degree, to this demand. This turn of events, in our view is partly a result of the real appreciation of these currencies.

But why and how was the real appreciation sustainable? This question leads to the other reason why the exchange rate is normally expected to depreciate in real terms in the context of trade liberalization. The effects of such measures on the balance of trade and payments are usually adverse, at least in the short run. These effects are supposed to be counteracted by the downward movement of the RER. But in the three countries reviewed, the trade and payments balances did not deteriorate significantly; the external economic performance of these countries, as noted, was "surprisingly" good. There are two components of external economic performance that should be treated separately. One is trade performance proper; the other concerns the balance of payments.

Some recent statistics on foreign trade and payments of the three countries are presented in Table 5. There is a clear tendency towards improvement in the current account. Trade balances have also been improving, and, due to the significant inflow of foreign capital, the overall balance of payments performance may be considered as very satisfactory.

²⁵ See ECE (1992) on this point.

Trade performance, in all three countries, seems to be dominated by developments in the domestic real economy, most notably by the sharp recession (see Table 4). The demand for imports has been falling, and companies having lost their Eastern and home markets had no choice but to try to increase their exports to the West, even when such trade was unprofitable. Although no systematic analysis is available, there is casual evidence from Hungary on the behaviour of firms under such circumstances. Many of them cover current losses on export sales²⁶ by living off their assets, e.g. selling their branches, real estates etc. Evidently, this process is not sustainable. Moreover, it should be recalled that in Hungary's case the alternative RER indices reflect a weaker (or more rapidly weakening) competitive position for domestic producers (vis-à-vis imports) than that for exporters. All in all, the favourable trade performance of these countries seems to be strongly associated with economic recession.

Table 4. **Indicators of Real Activity**
(per cent change)

	1990	1991	1992(a)
CSFR (GDP)	-3	-16	-13
(Ind.product.)	-3.7	-21.2	-16.6(5)
Hungary (GDP)	-3.3	-10.2	-4
(Ind.product.)	-8.5	-19.1	-16.6(8)
Poland (GDP)	-11.6	-9.0	...
(Ind.product.)	-23.3	11.9	-1(7)

(a) GDP: forecast; industrial production: latest figure (number of months in brackets)

Source: National statistics and Kopint-Datorg (1992)

²⁶ Evidence on this is given in Antalóczy - Koltainé (1992).

Table 5.

Indicators of External Performance
(Billions of USD)

	1990	1991	1992(a)
Trade Balance			
CSFR	-0.78	-0.45	0.38(5)
Hungary	0.35	0.19	0.69(6)
Poland	2.2	0.1	1.0(6)
Current Account			
CSFR	-1.1	0.36	0.8(6)
Hungary	0.13	0.27	0.6(7)
Poland	0.7	-1.7	0.4(6)
Foreign Direct Investment			
CSFR	0.18	0.6	0.5(6)
Hungary	0.31	1.5	1.1(9)
Poland	0.09	

(a) latest figures; number of months in brackets

Source: IFS and national statistics

But what about the other component of balance-of-payments performance, foreign capital inflow? The evidence is even more sporadic on this than on factors affecting trade flows. Experiences in Hungary – the country that has recorded the largest capital inflow within the CEE region (see Table 5) – indicate that the major part of the capital inflow recorded as "foreign direct investment" is in the form of short-term deposits with commercial banks. (Note that due to tight monetary policies in the three countries, both nominal and real interest rates have been high by international standards.) Therefore, this capital inflow, unless spent on imports, which would actually constitute a healthy and welcome development, directly contributes to either real appreciation or inflation in these countries. "Once foreign investments and other private long-term capital inflows make their way into the countries (as is happening in Hungary) a Latin American – type real appreciation syndrome may set in" – warned Bruno (1992). Still, he was mildly optimistic, expecting that there are substantial untapped sources of productivity growth in these economies.

This, indeed, is likely to be the case. But the critical question facing policy makers and analysts is whether the short-term real appreciation of the currencies of transition economies actually helps, or hinders, the tapping of these sources. The Latin American experiences alluded to certainly argue that the real appreciation of the currency may be the factor most detrimental to trade liberalization and related outward-looking development strategies.

6 Exchange Rate Policy and Purchasing Power Parities: Some Concluding Remarks

In the three countries reviewed, a major objective of recent exchange rate policy has been to try to provide a firm basis for the anti-inflationary aims of overall economic policy. This policy line was abandoned in Poland after having proved unrealistic and unsustainable, but in the other two countries it still prevails. The real appreciation of the currencies of the latter two countries certainly had, and may even continue to have beneficial effects on price performance, but, as we tried to indicate, it may not be sustainable in the longer run, or only at the cost of further losses in output.

However, both within these countries and abroad, there is a school of thought that considers real appreciation not as a source of problems, but rather as a sign of becoming a "normal" country. Those who support this view refer to the fact that in transition economies exchange rates are very much undervalued relative to purchasing power parities (PPP). This claim is clearly born out by the relevant figures (see Table 6 and Chart 3, taken from Planecon, 1992; to indicate the relative positions of the three countries, the data on other CEE countries is also presented). The latest comprehensive review of real income levels and PPPs²⁷, in which Hungary and Poland were included, reveals figures for 1988; but they are more or less in line with those suggested by Planecon.

These findings are subject to several interpretations. They may indeed be considered to reflect the fact that there is ample room for further real appreciation of these currencies, and generally speaking, there is nothing wrong about this assertion. If, however, it is claimed on the basis of PPP figures that the currencies of CEE transition economies may, or should, appreciate in real terms in the short run, then this proposition has to be handled with care. It is well known that countries of different income levels have currencies whose exchange rates deviate from PPPs more or less in line with differences in relative real incomes²⁸, but in the case of transition economies there are good reasons for more than normal deviations. For overcoming the legacies of central planning, and, in particular, the consequences of the extreme "closedness" of the economy, for establishing a viable export sector and enabling domestic industries to compete with foreign exporters, the maintenance of a substantial difference between exchange rates and PPPs may be crucial. The gap between exchange rates and purchasing power parities will surely narrow as the real performance provides support. But there is no need to hurry. Even newly industrialized countries with much more competitive export sectors suffered when they experienced the inevitable eventual real appreciation of their currencies²⁹. Central East Europe is far from being too competitive, and its industry badly needs clear signals for export-oriented investments.

²⁷ See Summers-Heston (1991).

²⁸ The idea was already raised by Ricardo, but its modern presentation is due to Balassa (1964).

²⁹ See on these issues Park-Park (1991).

Table 6.

OVERVIEW OF EAST EUROPEAN EXCHANGE RATES, 1990-92													
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bulgarian Lev													

Market/Official exchange rate (lev/\$)	1990	2.02	2.02	2.00	2.01	3.00	2.97	2.97	2.93	2.84	2.85	2.82	2.82
	1991	2.83	13.62	16.99	16.96	18.49	18.10	16.88	18.69	17.76	18.14	17.38	17.51
	1992	17.70	18.15	18.59	18.30	18.46	19.33	19.69	19.94	20.29	20.65	21.12	21.60
PPP exchange rate (lev/\$)	1990	.70	.71	.73	.74	.76	.78	.81	.89	.92	.95	1.00	1.10
	1991	1.24	2.77	4.16	4.25	4.28	4.51	4.89	5.23	5.41	5.58	5.84	6.12
	1992	6.41	6.76	7.05	7.41	7.69	7.89	8.04	8.17	8.38	8.62	8.94	9.29
Ratio of Market/PPP exchange rate	1990	2.89	2.83	2.76	2.71	3.97	3.79	3.68	3.30	3.09	2.99	2.83	2.56
	1991	2.28	4.92	4.09	3.99	4.32	4.01	3.46	3.57	3.28	3.25	2.98	2.86
	1992	2.76	2.69	2.64	2.47	2.40	2.45	2.45	2.44	2.42	2.40	2.36	2.33
Czechoslovak Koruna													

Market/Official exchange rate (koruna/\$)	1990	16.29	16.60	16.72	16.67	16.44	16.58	16.37	15.89	15.71	20.18	23.63	24.19
	1991	27.65	27.24	28.74	29.94	30.12	30.89	31.00	30.53	30.03	29.89	29.15	28.55
	1992	28.36	28.78	29.03	28.85	29.11	29.44	29.70	29.78	29.86	29.95	30.03	30.11
PPP exchange rate (koruna/\$)	1990	6.20	6.17	6.14	6.15	6.16	6.15	6.51	6.66	6.81	6.83	6.83	6.83
	1991	8.54	9.13	9.54	9.71	9.89	10.02	10.01	9.97	9.96	9.93	10.06	10.17
	1992	10.27	10.28	10.28	10.34	10.37	10.38	10.89	11.12	11.19	11.28	11.31	11.35
Ratio of Market/PPP exchange rate	1990	2.63	2.69	2.72	2.71	2.67	2.70	2.52	2.39	2.31	2.95	3.46	3.54
	1991	3.24	2.98	3.01	3.08	3.05	3.08	3.10	3.06	3.02	3.01	2.90	2.81
	1992	2.76	2.80	2.82	2.79	2.81	2.84	2.73	2.68	2.67	2.65	2.66	2.65
Hungarian Forint													

Market/Official exchange rate (forint/\$)	1990	62.36	63.94	65.68	65.21	64.57	65.02	64.01	62.38	62.35	61.37	60.62	60.95
	1991	68.59	69.53	72.65	75.18	75.57	76.98	77.29	76.27	75.49	75.21	77.28	76.78
	1992	76.92	77.81	79.23	79.80	80.51	81.45	82.14	82.37	82.60	82.83	83.06	83.29
PPP exchange rate (forint/\$)	1990	29.00	30.39	31.04	31.75	31.95	31.93	32.60	33.24	33.49	33.76	34.41	34.99
	1991	37.37	39.17	40.55	41.42	42.27	42.98	43.32	43.27	43.76	44.24	44.73	45.41
	1992	46.82	47.92	48.44	49.18	49.58	49.88	50.09	49.90	49.96	50.12	50.48	50.94
Ratio of Market/PPP exchange rate	1990	2.15	2.10	2.12	2.05	2.02	2.04	1.96	1.88	1.86	1.82	1.76	1.74
	1991	1.84	1.78	1.79	1.81	1.79	1.81	1.79	1.78	1.73	1.70	1.73	1.69
	1992	1.64	1.62	1.64	1.62	1.62	1.63	1.64	1.65	1.65	1.65	1.65	1.64
Polish Zloty													

Market/Official exchange rate (zloty/\$)	1990	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500
	1991	9500	9500	9500	9500	10290	11392	11453	11288	11154	11153	11111	11072
	1992	11247	11817	13400	13500	13856	14192	14313	14353	14572	14794	15055	15359
PPP exchange rate (zloty/\$)	1990	2450	3018	3132	3360	3508	3609	3720	3754	3897	4093	4284	4538
	1991	5081	5416	5649	5790	5936	6203	6204	6217	6461	6655	6850	7056
	1992	7578	7686	7812	7931	8193	8367	8359	8328	8504	8701	8937	9241
Ratio of Market/PPP exchange rate	1990	3.88	3.15	3.03	2.83	2.71	2.63	2.55	2.53	2.44	2.32	2.22	2.09
	1991	1.87	1.75	1.68	1.64	1.73	1.84	1.85	1.82	1.73	1.68	1.62	1.57
	1992	1.48	1.54	1.72	1.70	1.69	1.70	1.71	1.72	1.71	1.70	1.68	1.66
Romanian Leu													

Market/Official exchange rate (leu/\$)	1990	14.33	20.96	21.18	21.11	20.80	20.86	20.54	20.13	19.89	19.69	34.93	34.75
	1991	34.14	34.53	35.85	59.53	60.19	61.14	62.10	60.95	60.68	59.94	201.74	185.85
	1992	194.91	197.60	198.10	199.00	200.77	265.00	267.26	268.01	305.28	328.81	354.15	381.44
PPP exchange rate (leu/\$)	1990	11.06	11.03	10.99	10.99	10.99	10.96	10.93	10.86	10.79	10.74	13.23	14.77
	1991	16.01	18.00	19.16	24.19	25.37	25.78	28.19	31.23	33.39	36.79	40.68	46.21
	1992	55.18	61.85	67.78	74.58	93.05	99.65	104.54	109.35	117.12	128.59	141.06	155.02
Ratio of Market/PPP exchange rate	1990	1.30	1.90	1.93	1.92	1.89	1.90	1.88	1.85	1.84	1.83	2.64	2.35
	1991	2.13	1.92	1.87	2.46	2.37	2.37	2.20	1.95	1.82	1.63	4.96	4.02
	1992	3.53	3.20	2.92	2.67	2.16	2.66	2.56	2.45	2.61	2.56	2.51	2.46
Yugoslav Dinar													

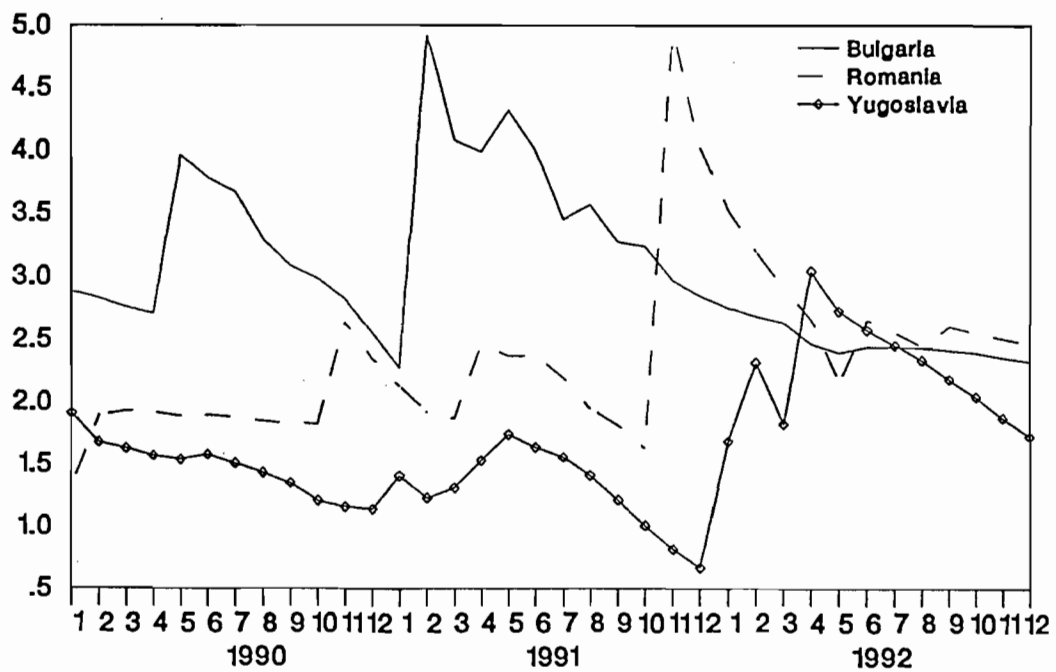
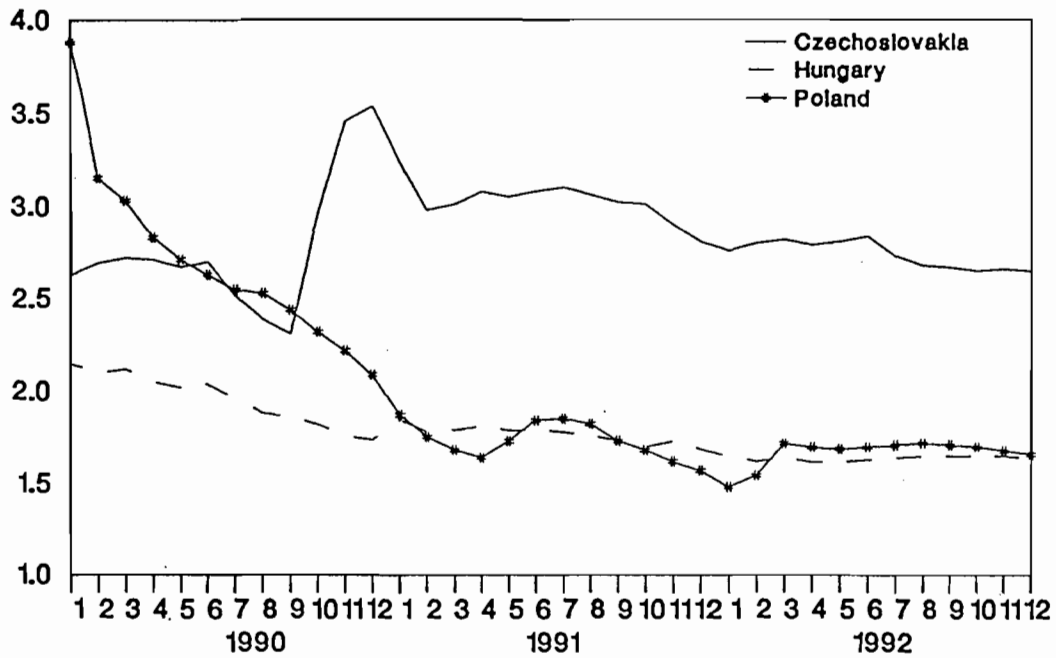
Market/Official exchange rate (dinar/\$)	1990	11.86	11.74	11.94	11.81	11.64	11.79	11.48	11.00	10.98	10.64	10.42	10.52
	1991	13.61	13.14	14.44	17.64	22.35	23.16	23.23	22.59	22.08	21.98	21.13	20.31
	1992	64.87	126.10	140.30	350.00	422.78	477.14	523.30	570.67	638.42	714.19	818.76	938.63
PPP exchange rate (dinar/\$)	1990	6.20	7.00	7.34	7.52	7.53	7.47	7.60	7.68	8.15	8.76	9.01	9.25
	1991	9.68	10.65	11.01	11.52	12.87	14.10	14.91	16.06	18.32	21.71	25.75	30.41
	1992	38.33	54.41	76.55	114.86	154.76	185.02	212.58	243.55	291.18	348.76	434.75	542.93
Ratio of Market/PPP exchange rate	1990	1.91	1.68	1.63	1.57	1.54	1.58	1.51	1.43	1.35	1.21	1.16	1.14
	1991	1.41	1.23	1.31	1.53	1.74	1.64	1.56	1.41	1.21	1.01	.82	.67
	1992	1.69	2.32	1.83	3.05	2.73	2.58	2.46	2.34	2.19	2.05	1.88	1.73

Source: PlanEcon Report number 18/1992

Chart 7

MARKET/PPP EXCHANGE RATE RATIOS

(Based on Units of Domestic Currency Per Dollar)



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