Annex 1:
The Calculation of Real Exchange Rates and Effective Exchange Rates

The Real Exchange Rate

As an example of how to calculate a real exchange rate, consider the Canadian dollar - U.S. dollar exchange rate between 1980 and 1990. In nominal terms, the Canadian dollar was worth $US 0.85 in both years. Yet, over the ten year period consumer price inflation rose by 78% in Canada and only 58% in the U.S.. The real exchange rate adjusts the nominal rate by the difference in the two countries inflation rates. The real exchange rate in 1990 was thus 0.85*(178/158) = 0.96, reflecting a real appreciation of the Canadian dollar of 11 U.S. cents between 1980 and 1990.

The Effective Exchange Rate

As an example of how to calculate an effective exchange rate, consider the Canadian dollar's effective exchange rate between 1980 and 1990 based on the simplifying assumption that Canada trades 70% with the U.S. and 30% with the U.K.. 1980 is the base year, when the effective exchange rate index equals 100.

	U.K. Pound/$C	$US/$C	effective exchange rate index
1980	0.37 = 100	0.85 = 100	100*0.3 + 100*0.7 = 100
1990	0.48 = 130	0.85 = 100	130*0.3 + 100*0.7 = 109

Even though the Canadian dollar did not change against the U.S. dollar, its appreciation against the U.K. pound raised the effective exchange rate by 9% to 109 by 1990.