

Technical Note 04/2008 – Sensitivity Analysis of Currency Risks

Paragraph 40(a) of HKFRS 7 requires a reporting entity to disclose a sensitivity analysis for currency risk to which the entity is exposed at the reporting date, showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date.

Paragraph 40(b) of HKFRS 7 requires the reporting entity to disclose the methods and assumptions used in preparing the sensitivity analysis.

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. [Appendix A of HKFRS 7]

Currency risk (or foreign exchange risk) arises on financial instruments that are denominated in a foreign currency, i.e. in a currency other than the functional currency in which they are measured. [HKFRS 7.B23]

For the purpose of HKFRS 7, currency risk does not arise from financial instruments that are non-monetary items or from financial instruments denominated in the functional currency. [HKFRS 7.B23]

[See the discussion below on the functional currency.]

A sensitivity analysis is disclosed for each currency to which an entity has significant exposure. [HKFRS 7.B24]

Monetary items are units of currency held and assets and liabilities to be received or paid in a fixed or determinable number of units of currency. [HKAS 21.8] Examples of monetary financial assets include cash, bank balances, accounts receivable and debt investments.

Functional currency is the currency of the primary economic environment in which the entity operates. [HKAS 21.8]

For the purpose of HKAS 21, it is not necessary to identify a functional currency for a group. Each member within the group would have its own functional currency and would translate its functional currency financial statements into a common reporting currency for consolidation purpose.

However, for the purpose of HKFRS 7, it would be necessary to identify the functional currency of the group so that financial instruments denominated in that currency would be excluded from the currency risk analysis in according with paragraph B23 of HKFRS 7.

Presumably the reporting currency selected for the group is the functional currency of the group for the purpose of HKFRS 7, such that all monetary financial assets and liabilities of the group denominated in that currency would be taken as not exposing to currency risks.

The following example illustrates the issues:

	H	S1	S2
Functional Currency (FuC)	HK\$	RMB	Euro
Reporting Currency (ReC)	HK\$	HK\$	HK\$
Monetary financial assets /liabilities denominated in:			
HK\$	FuC	FxC ^{P/L, RES}	FxC ^{P/L, RES}
RMB	FxC ^{P/L}	FuC ^{RES}	FxC ^{P/L, RES}
Euro	FxC ^{P/L}	FxC ^{P/L, RES}	FuC ^{RES}

The functional currency of H, S1 and S2 are HK\$, RMB and Euro respectively. The group presents its consolidated financial statements in HK\$.

Separate financial statements of H in functional currency HK\$:

It the separate financial statements of H in HK\$, no exchange gain or loss would arising from monetary items in HK\$, since HK\$ is the functional currency (FuC) of H.

All exchange gain or loss arising from monetary items denominated in foreign currencies (FxC) such as RMB and Euro would be recognised in profit or loss (FxC^{P/L}) in accordance with HKAS 21.

Separate financial statements of S1 and S2 in functional currency RMB and Euro respectively:

It the separate financial statements of S1 in RMB, no exchange gain or loss would arising from monetary items in RMB, since RMB is the functional currency (FuC) of H.

All exchange gain or loss arising from monetary items denominated in foreign currencies (FxC) such as HK\$ and Euro would be recognised in profit or loss (FxC^{P/L}) in accordance with HKAS 21.

Similarly for S2.

Consolidated financial statements of the group:

For the purpose of preparing the consolidated financial statements of the group, financial statements of S1 and S2 in RMB and Euro are translated into HK\$.

Exchange gain or loss relating to monetary items denominated in their respective functional currency (FuC) would be reported in consolidated reserves (FuC^{RES}), or consolidated comprehensive income when HKAS 1 (Revised) becomes effective.

Exchange gain or loss relating to monetary items denominated in their respective foreign currency (FxC) would be reported in the consolidated profit or loss and consolidated reserves (FuC^{P/L,RES}), or in the consolidated profit or loss and consolidated comprehensive income when HKAS 1 (Revised) becomes effective.

HKFRS 7 reporting on currency risks:

If the reporting currency of the group HK\$ is taken as the functional currency of the group for the purpose of paragraph B23 of HKFRS 7, all monetary items of the group denominated in HK\$ would be excluded from the analysis.

If HK\$ is taken as devaluating/appreciating by the same extent against all other currencies (other than US\$), there will be no change in the exchange rate amongst foreign currencies, i.e. the rate between RMB and Euro would not be changed. Therefore, there will be no exchange gain or loss arising in separate financial statements of S1 and S2 for the monetary items denominated in foreign currencies.

On translation of their financial statements into HK\$, exchange gain or loss arising on monetary items denominated in currencies other than HK\$ would be reported in the consolidated reserves.

The situation is summarised as follows:

	H	S1	S2
Functional Currency (FuC)	HK\$	RMB	Euro
Reporting Currency (ReC)	HK\$	HK\$	HK\$
Monetary financial assets /liabilities denominated in:			
HK\$	FuC	FxC ^{P/L, RES}	FxC ^{P/L, RES}
RMB	FxC ^{P/L}	FuC ^{RES}	FxC ^{P/L, RES}
Euro	FxC ^{P/L}	FxC ^{P/L, RES}	FuC ^{RES}

In the case where the reporting currency of the group is not the functional currency of the parent, e.g. RMB, the situation is summarised as follows:

	H	S1	S2
Functional Currency (FuC)	HK\$	RMB	Euro
Reporting Currency (ReC)	RMB	RMB	RMB
Monetary financial assets /liabilities denominated in:			
HK\$	FuC ^{RES}	FxC ^{P/L}	FxC ^{P/L, RES}
RMB	FxC^{P/L, RES}	FuC	FxC^{P/L, RES}
Euro	FxC^{P/L}	FxC ^{P/L}	FuC ^{RES}

Along this line of thinking, procedures to prepare the analysis are as follows:

1. exclude from the HKFRS 7 currency risk analysis all assets or liabilities that are not financial assets or liabilities, e.g. prepayments or revenue received in advance;
2. exclude from the HKFRS 7 currency risk analysis all non-monetary financial assets or liabilities, for example equity investments;
3. determine the functional currency of the reporting entity;

In the case of a group, the functional currency of the group for the purpose of the HKFRS 7 analysis is taken as the reporting currency of the consolidated financial statements;

4. exclude from the HKFRS 7 currency risk analysis all monetary assets or liabilities that are denominated in the functional currency of the reporting entity;
5. Calculate the exchange gain or loss on the assumed devaluation or appreciation.

In the case of a group, include those exchange gain or loss of entities whose functional currency is different from the reporting currency in changes in exchange reserves.

The following numeric example illustrates the application of the procedures above.

Example 1

The functional currency of Holding Company Limited (“HCL”) and its principal subsidiary (“SUB”) are HK\$ and RMB respectively. The reporting currency of the Group is HK\$. Hence, the functional currency of the Group is taken as HK\$ for the purpose of HKFRS 7.

As at 31 December 2007, HCL and SUB has the following monetary financial assets:

	HCL		SUB	
	HK\$'000	Euro'000	HK\$'000	Euro'000
Bank balance in HK\$	300	-	400	-
Bank balances in Euro	-	10	-	20

Assume that the exchange rates at 31 December 2007 were: HK\$1 = Euro 0.1; and HK\$1 = RMB 0.8

If HK\$ devalues by 10% against all currencies, the exchange rates would become: HK\$1 = Euro 0.09; and HK\$1 = RMB 0.72.

The exchange rate between RMB and Euro would not be changed, i.e. RMB 8 = Euro 1.

a) Bank balances of HK\$300,000 of HCL

Since HK\$ is the functional currency of the Group, the bank balances of HK\$300,000 of HCL would not result in currency risks for the Group.

b) Bank balances of Euro 10,000 of HCL

Since the functional currency of HCL is HK\$, any differences for the amount arising from any changes in exchange rates between HK\$ and Euro would be reported as an exchange gain or loss in profit or loss of HCL in accordance with HKAS 21.

Therefore, if HK\$ devalues by 10% against all currencies, the Euro 10,000 held by HCL would result in an increase in net asset of HK\$11,111 [Euro 10,000/0.09 – Euro 10,000/0.1] and an increase in profit or loss of HK\$11,111.

c) Bank balances of HK\$400,000 of SUB

Since HK\$ is the functional currency of the Group, the bank balances of HK\$400,000 of SUB would not result in currency risks for the Group, even though it is reported as RMB320,000 in SUB's financial statements.

That is, the amount of HK\$400,000 translated at HK\$1 = RMB0.8 included in the financial statements translated from RMB back into HK\$ would not be included in the sensitivity analysis of the Group's currency risks.

d) Bank balances of Euro 20,000 of SUB

Since the functional currency of SUB is RMB, any differences for the amount arising from any changes in exchange rates between RMB and Euro would be reported as an exchange gain or loss in profit or loss of SUB in accordance with HKAS 21.

However, if HK\$ devalues by 10% against all currencies, there will be no change in the exchange rate between RMB and Euro, and therefore, there will be no profit or loss effect in SUB's RMB financial statements.

When SUB's RMB financial statements are translated into HK\$ for the purpose of consolidating into the Group's financial statements in HK\$, any exchange difference would be recognised directly in reserves in accordance with the requirements of HKAS 21.

Therefore, if HK\$ devalues by 10% against all currencies, the Euro 20,000 held by SUB would result in an increase in net asset of HK\$22,222 [Euro 20,000/0.09 – Euro20,000/0.1] and an increase in exchange difference reserves of HK\$22,222.

The sensitivity analysis for exchange risks of the Group may be disclosed as follows:

19. NATURE AND EXTENT OF FINANCIAL INSTRUMENT RISKS (CONTINUED)

(c) Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Group manages currency risks, when it is considered significant, by entering into appropriate currency forward contacts.

Carrying amounts of monetary financial assets and monetary financial liabilities as at 31 December 2007 that exposed to currency risks against Hong Kong dollars were as follows:

	<i>2007</i>	<i>2006</i>
	<i>HK\$'000</i>	<i>HK\$'000</i>
Financial assets denominated in foreign currencies:		
Cash and bank balances in Euro dollars	300	Xxx

Should Hong Kong dollars at 31 December 2007 devalue by 10% against all foreign currencies except United States dollars, the carrying amount of the net financial asset exposed to currency risk at 31 December 2007 determined in accordance with HKAS 21 "The Effects of Changes in Foreign Exchange Rates" would be increased, and hence the equity at 31 December 2007 would be increased, by HK\$33,333 (2006: HK\$Xx,xxx); and the profit for the year ended 31 December 2007 would be increased by HK\$11,111 (2006: HK\$Xx,xxx).