Annex A(1

James YM CHAN/CITB/HKSARG
09/07/2010 15:00

To Dorothy TY CHUNG/TSYB/HKSARG@TSYB
cc Agnes SC YEUNG/TSYB/HKSARG@TSYB
YF Chan/HKPO/HKSARG@HKPO
Iris SY Wong/HKPO/HKSARG@HKPO
Maggie KWONG/CITB/HKSARG@CITB
bcc
Subject ~~CONFIDENTIAL~~: Review of Target Rates of Return
File Ref.
☐ High Importance ☒ Return Receipt

~~CONFIDENTIAL~~

Re the upcoming review on the target rate of return. Having discussed with us, HKP has set out the initial views at the paper attached. We should be grateful if you could take them into account in taking forward the exercise. We and HKP would be happy to discuss with you after you have taken a look at them.

Paper to CEDB.18.6.2010.doc

Annex 1-14.5.2010.doc Annex 2 (14.5.2010).xls Annex 3 (8.6.10).xls Annex 4 (8.6.10).xls

Thanks.

*委員會秘書附註：本文件只備英文本。

Review on the Target Rate of Return on Average Net Fixed Assets of the Post Office Trading Fund

This paper proposes to revise the existing methodology on determining the target rate of return on average net fixed assets (**ANFA**) for the Post Office Trading Fund (**POTF**) with effect from 1 April 2011.

I. Background

2. Under S6 of the Trading Fund Ordinance (Cap. 430), Trading Funds are required to achieve a reasonable return, as determined by the Financial Secretary, on the fixed assets employed. The approach in deriving the rate of return is based on the Capital Asset Pricing Model (**CAPM**). The CAPM is used to determine a theoretically reasonable rate of return of an investment asset. This model takes into account the investment asset's sensitivity to non-diversifiable risk[1] which is often represented by the quantity beta (β) in the financial industry, the expected return of the market and the expected return of a theoretical risk-free asset. The CAPM for deriving the rate of return on ANFA is illustrated below:

CAPM = Risk-free rate + Equity risk premium x Asset beta

3. Based on the premise that investors as a whole are risk averse and would require an additional return over the risk-free rate[2] that can commensurate the risks they take in committing their funds to a specific business venture, this additional return is represented by risk premium, which is equity risk premium multiplied by the asset beta. Equity risk premium is the extra return required by investors to justify committing their investment in equities. Asset beta measures the volatility of the investment compared with the market. The higher the asset beta, the more volatile the market price of the investment relative to the market.

[1] Non-diversifiable risk is the risk of an investment asset that cannot be reduced or eliminated by adding that asset to a diversified investment portfolio. For example, during inflation, all companies experience an increase in cost of inputs, and in general, their profitability will suffer if they cannot fully transfer the increase in cost on to their customers.

[2] The risk-free rate is the return on an investment that is substantially no risk. For example, investment in US Treasury Notes and Hong Kong Exchange Fund Notes.

4. The target rate of return on ANFA is derived to justify the rate of return for Government investment in POTF vis-à-vis other vehicles, such as US Treasury Notes. In gist, the target rate is:

(i) the rate of return for investing in instruments that incurs the lowest possible level of risk (i.e. the risk-free rate) plus

(ii) the risk premium for justifying the Government to take the incremental risk in investing in POTF relative to investing in risk-free capital (i.e. the risk premium equal to the equity risk premium multiplied by the asset beta).

Derived from the review conducted by FSTB in 2006[3], the values for (i) and (ii) are 5.2% and 3.2% respectively, thus making up the target rate of ANFA for HKPO to be 8.4%. The basis used in deriving the current 8.4% return on ANFA based on CAPM is at **Annex 1**.

5. The CAPM is a model which is widely used in the business sector and the Government to calculate the target rates of return by drawing reference from financial statements and market data that are readily available. These rates are set for the purpose of recouping investment in the services, and providing a benchmark for evaluating the overall financial performance of the entities, as well as a hurdle rate for appraising new investments.

6. The target rate of return on ANFA is reviewed by FSTB every 5 years. The last review in 2006 set the target rate of return for POTF at 8.4% for five years up to 31 March 2011. The next review is due in 2010.

II. The Shortcomings of the Current Methodology

[3] The aim of 2006 Review is to determine the target rates of return applicable to the government utilities and trading funds.

7. We consider that the current methodology in determining ANFA has certain shortcomings, which do not accurately and fairly reflect the situation of POTF. The shortcomings are as follows:-

(i) Component of the equity risk premium

- The existing risk premium is benchmarked to Hang Seng Index Total Return. However, the Hang Seng Index is far more volatile than POTF's business. As seen from the recent financial tsunami, the Hang Seng Index plunged by 46% year on year in December 2008 and rallied 57% year on year in December 2009 while POTF's Speedpost traffic moves by -6.1% and +8.8% over the same period. Therefore, it is necessary to select an alternative proxy index that better represents POTF's business.

(ii) The asset beta (β)

- The existing asset beta is based on the respective values of the utilities and the delivery sectors in the ratio of 3:2[4]. The delivery sector has made specific reference to six comparable businesses[5] around the world. Most of these entities are international courier service operators whose major revenue is generated from express delivery services. In contrast, such services (i.e. Speedpost and Local CourierPost services for POTF) only accounts for 15.5% of POTF's total revenue.

(iii) POTF's Social Obligation

- The current methodology does not take into account the fact that the POTF has a social obligation to "*meet Hong Kong's postal needs and fulfill Hong Kong's international postal obligations by providing reliable, efficient and universal postal services at*

---

[4] As stated in para. 83 of the 2006 Consultancy Report on the Review of Target Rates of Return, "given the Post Office operates more within the traditional range of postal delivery services than the listed delivery companies, and is less subject to market competition than its counterparts operating globally, we consider the beta value of the Post Office should be lower than the industry norm and can be approximated at 0.63, the 3:2 weighted average for the utilities and delivery services sectors".

[5] These include (i) Deutsche Post DHL; (ii) UPS; (iii) FedEx; (iv) TNT; (v) Singapore Post and (vi) UK Mail Group (formerly known as Business Post Group).

reasonable and affordable prices."[6]

- POTF's core mail services include the receiving, collecting, sending, dispatching and delivering postal articles within the meaning of the Post Office Ordinance (Cap. 98) and any ancillary service incidental or conducive to providing any of such services as well as other services prescribed by the Acts of the Universal Postal Union. These services fall under the ambit of the universal service obligations (USO) which bear multiple characteristics: universal geographical coverage, whole range of postal products, universal access to services and facilities by the general public, affordable pricing, high service quality and security of mail.

- The local mail service can be used to illustrate how the provision of USO differs from commercial operations. While the commercial carriers cherry-pick the delivery of mail to the central business districts or densely populated areas to safeguard profit margin, POTF honours the obligation to deliver to every Hong Kong address at the same affordable price, with the same delivery frequency and security level.

- The provision of USO can also be exemplified in the peak traffic months of 2009 where the demand for air conveyance had far exceeded the supply. Neither could POTF turn away the public from our postal service nor could we raise the charges on air mail (both were practiced by the commercial couriers). As a result, in some cases, what the customers paid were not sufficient to cover the conveyance charges alone.

III. Proposed Changes

8. We propose the following modifications to the target rate of return:

(i) The target rate of return determined by the CAPM

[6] Para. 2 of the Framework Agreement of Post Office Trading Fund (1 August 1995)

should apply to the competitive services[7] only, with the components revised;

(ii) The target rate of return for USO services should be the risk-free rate while the target rate for competitive services is subject to the CAPM with the components revised;

(iii) Adopt the less volatile index for equity risk premium — replacing the Hang Seng Index Total Return with the Hang Seng Utilities Sub-index Total Return;

(iv) The asset beta (β) should benchmark with the asset beta of the utilities companies only and exclude the asset beta for the courier services.

The USO and competitive services provided by POTF are set out in **Annex 2**. The revenue contributions by the 2 types of services are 75% and 25% respectively, while the sharing of the expenditure are 77% and 23% respectively. It is recommended to split the ANFA base of POTF between USO and competitive services based on the expenditure relating to the relevant services.

IV. Justifications

(i) The target rate of return determined by the CAPM should apply to the competitive services only with components revised

9. POTF is the only trading fund that is required to provide USO. As explained above, POTF has to perform USO despite suffering losses in discharging the obligations. However, the existing model has not taken this element into account. Some of the postal administrations, like US Postal Services and China Post are subsidized by public funds for the provision of USO. As a trading fund, we understand that we have a statutory obligation to meet a financial return. Therefore, we propose to differentiate USO from competitive services. By so doing, a lower target rate will be set for POTF's USO in view that it is a form of

[7] Competitive services are services provided by POTF other than the USO. They include Speedpost, local courier services, philatelic services etc.

public service; while the latter aims to preserve the advantage of a trading fund to engage in product development and innovation to meet market demands for competitive services

(ii) The target rate of return for USO services should be the risk-free rate while the target rate for competitive services is subject to the CAPM with the components revised

10. As set out in paragraph 9, services under the ambit of USO are meant to serve the mass public and thus should deserve a waiver from generating a higher return. We therefore propose that the target rate of return for USO to be benchmarked with the yield of the 10 year Hong Kong Exchange Fund Notes, which is at a risk-free rate, and can be regarded as the appropriate baseline of government investing in the POTF. As for competitive services, the CAPM is used to set the target rate of return. However, we consider that some improvements are needed, as specified in paragraphs 11 and 12.

(iii) Adopt the less volatile index for equity risk premium — replacing the Hang Seng Index Total Return with the Hang Seng Utilities Sub-index Total Return

11. When determining the equity risk premium, we propose to replace the Hang Seng Index Total Return by the Hang Seng Utilities Sub-index Total Return since the business mode and market risk of POTF is more akin to the public utilities. During the recent financial tsunami, while the Hang Seng Index can be extremely volatile[8], the Hang Seng Utilities Sub-index is comparatively stable[9]. The latter is more in line with the movement of our business[10]. The magnitude of difference in the equity risk premium by using the two different indexes is shown in **Annex 4A.**

(iv) The asset beta (β) should benchmark with the asset beta of the utilities companies only and exclude the asset beta for the courier services.

---

[8] The year on year changes in December 2008 and December 2009 are -46% and +57% respectively.
[9] The year on year changes in December 2008 and December 2009 are -15% and +15% respectively.
[10] The year on year changes in December 2008 and December 2009 are -6.1% and +8.8% respectively.

12. For the asset beta (β), we propose that the basket of reference entities should exclude those primarily engaged in premium international courier services. It is because premium courier services only accounts for 15.5% of our total revenue. Also, the market risk of POTF is much lower than the private courier companies as POTF has a relatively stable revenue base from the core postal services. We therefore recommend that the asset beta should make reference to that of the utilities companies only.

13. To illustrate the effect of the revised methodology set out in paragraph 8, the target rates of returns using the old and new methodology are set out in **Annex 3** and **Annex 4**. The target rate of return using the existing methodology (at 10.9%) with updated market data (**Annex 3**), while the new target rate of return on ANFA for USO and competitive services will be 3.4% and 5.2% respectively (**Annex 4**).

V. Recommendation

14. We therefore recommend the proposed changes of methodology set out in paragraph 8 above which more appropriately reflects the modus operandi and risk exposure of POTF.

Commerce and Economic Development Bureau
Hongkong Post

June 2010

Annex 1

Methodology of Setting the Existing Target Rate of Return - Capital Asset Pricing Model

Risk-free Rate + Equity Risk Premium x Asset Beta
= 5.2% + 5% x 0.63
= 8.4%

Risk-free Rate (5.2%)
The average of (i) short-term yield of 10-year Exchange Fund Notes (EFN) during the three months of Oct – Dec 2005 and (ii) long-term yield of 10-year EFN of during the 9 years of 1997 – 2005.

Equity Risk Premium (5%)
It is the additional return required by investors over and above the risk free rate to justify committing their investment in equities. It can be estimated from suitable long-term market return data. It equals to the difference of 10-year average return of Hang Seng Index (11.2%) and HKEFN (6.2%)

Asset Beta (0.63)
It measures the volatility, and therefore the risk, of the investment compared with a fully diversified portfolio. It can be observed through the stock price movement of the investment. For POTF, it is benchmarked on 3:2 of the respective beta values for (i) the utilities sector (0.56) and (ii) the delivery sectors, including Deutsche Post, DHL, UPS, FedEx, TNT, Singapore Post and UK Mail Group (formerly known as Business Post Group) (0.74).

Annex 2

Classification of USO and competitive services

(I) List of USO Services	(II) List of Competitive Services
(A) Local Mail - Letter / Packet - Parcel (B) International Mail - Letter / Packet - Parcel - Bulk Mail / Bag - Transit Mail (C) Ancillary services incidental or conducive to providing any of the services in (A) & (B) above, including business reply, express, insurance PO Box, redirection and registration.	(A) Local Mail - Hongkong Post Circular Service - e-Post - Local CourierPost (B) International Mail - Speedpost - International Periodical - Transhipment (C) Philately (D) Retail & Logistics

Target Rate of Return
Based on the existing methodology

	%		Reference
Risk-free Rate	3.39	Average of (i) yield of 10-year HKEFN for the past 9 years & (ii) yield of 10-year HKEFN for the past 3 months (up to April 2010)	
Equity Risk Premium	16.72	Difference of (i) Hang Seng Index Total Return & (ii) yield of 10-year HKEFN for the past 5 years	Annex 3A
Asset Beta	0.45	Based on 3:2 weighted average for the utilities and delivery services sectors	Annex 3B

Target Rate of Return = Risk-free Rate + Equity Risk Premium x Asset Beta

= **10.9%**

Note: Due to limited market information, equity risk premium is calcaluted based on the HSI Total Return for the past five years

Annex 3A

Calculation of Equity Risk Premium

	Hang Seng Index Total Return	
	Value	YOY change
Dec-04	24,470	
Dec-05	26,528	8.41%
Dec-06	36,868	38.98%
Dec-07	52,858	43.37%
Dec-08	28,332	-46.40%
Dec-09	44,382	56.65%

Average Return on Index [a]	20.20%
Average yield of 10-year HKEFN [b]	3.48%
Equity Risk Premium [a] - [b]	16.72%

Source: Bloomberg

Asset Beta

Utilities sector

	Market Beta [1]	Gearing ratio [1]	Projected Asset Beta [2]
CLP Holdings	0.02	0.47	0.20
HK & China Gas	0.53	0.36	0.47
HK Electric	0.03	0.19	0.30
			0.96
		Average	**0.32**

Courier sector

	Market Beta [1]	Gearing ratio [1]	Projected Asset Beta [2]
Deutsche Post	1.10	0.47	0.65
UPS	0.79	-	0.86
FedEx	1.14	0.12	1.00
TNT	1.03	0.46	0.66
Singapore Post	0.47	0.52	0.34
UK Mail Group (formerly Business Post Group)	0.03	0.13	0.32
			3.84
		Average	**0.64**

Based on 3:2 weighted average for the utilities and courier sectors, the asset beta is **0.45**.

Notes
(1) Source: www.ft.com/marketsdata/
(2) Projected Asset Beta = [Market beta + (1-Market beta)/3] x (1 - Gearing)/(1 - Gearing x tax rate)

Annex 4

Target Rate of Return
Based on the proposed methodology

(I) USO services

Per Risk-free Rate: **3.4%**

(II) Competitive services - based on CAPM

	%		Reference
Risk-free Rate	3.39	Average of (i) yield of 10-year HKEFN for the past 9 years & (ii) yield of 10-year HKEFN for the past 3 months (up to April 2010)	
Equity Risk Premium	5.53	Difference of (i) Hang Seng Utilities Sub-index Total Return & (ii) yield of 10-year HKEFN for the past 5 years	Annex 4A
Asset Beta	0.32	Asset beta for utilities sector only	Annex 4B

Target Rate of Return = Risk Free Rate + Equity Risk Premium x Asset Beta
= **5.2%**

Note: Due to limited market information, equity risk premium is calculated based on the HSI Utilities Sub-index for the past five years

Annex 4A

Calculation of Equity Risk Premium

	Hang Seng Index Total Return		Hang Seng Utilities Sub-Index Total Return	
	Value	YOY change	Value	YOY change
Dec-04	24,470		59,202	
Dec-05	26,528	8.41%	63,905	7.94%
Dec-06	36,868	38.98%	74,988	17.34%
Dec-07	52,858	43.37%	89,244	19.01%
Dec-08	28,332	-46.40%	76,105	-14.72%
Dec-09	44,382	56.65%	87,896	15.49%
Average Return on Index [a]		20.20%		9.01%
Average yield of 10-year HKEFN [b]		3.48%		3.48%
Equity Risk Premium [a] - [b]		16.72%		5.53%

Source: Bloomberg

Annex 4B

Asset Beta

Utilities sector

	Market Beta [1]	Gearing ratio [1]	Projected Asset Beta [2]
CLP Holdings	0.02	0.47	0.20
HK & China Gas	0.53	0.36	0.47
HK Electric	0.03	0.19	0.30
			0.96
		Average	**0.32**

Notes
(1) Source: www.ft.com/marketsdata/
(2) Projected Asset Beta = [Market beta + (1-Market beta)/3] x (1 - Gearing)/(1 - Gearing x tax rate)