

# EMBEDDED VALUE OF TPL

## 1. BACKGROUND

The Group consists of three major business segments, which are the reinsurance business, life insurance business and property and casualty business. In particular, the life insurance segment operated by TPL, a 50.05%-owned subsidiary, has become an increasingly significant part of the Group in terms of gross premiums written, total assets and profitability. In order to provide investors with additional parameters to evaluate the profitability and valuation of TPL, the Group has decided to disclose the Embedded Value and New Business Value of TPL. The Embedded Value consists of the shareholders' adjusted net worth plus the present value of future expected cash flows to shareholders from the in-force business, less the cost of holding regulatory solvency capital to support the in-force business. The New Business Value represents an actuarially determined estimate of the economic value arising from the new life insurance business issued during the past one year.

## 2. BASIS OF PREPARATION

The Group has appointed PricewaterhouseCoopers ("PwC"), an international firm of consulting actuaries, to examine whether the methodology and assumptions used by TPL in the preparation of the embedded value and the new business value as at 31 December 2008 are consistent with standards generally adopted by insurance companies in the PRC. In the opinion of the management, PwC has not identified material inconsistencies between the methodology and assumptions used by TPL and those under the standards generally adopted by insurance companies in the PRC.

## 3. CAUTIONARY STATEMENT

The calculations of embedded value and the new business value are based on certain assumptions with respect to future experience and thus the actual results could differ significantly from what is envisioned when these calculations are made. From an investor's perspective, the valuation of the Company is measured by the stock market price of the Company's shares on any particular day. In valuing the Company's shares, investors should take into account not only the embedded value and the new business value, but also various other considerations. In addition, TPL is 50.05%-owned by the Company. The embedded value and the new business value as at 31 December 2008 as disclosed below should therefore not be applied 100% in valuing the Company. Investors are advised to pay particular attention to this factor, as well as the other assumptions underlying the calculations of the embedded value and new business value of TPL, if they believe such calculations are important and material to the valuation of the Company.

# 太平人壽之內涵價值

## 1. 背景

本集團由三項主要業務分部組成：再保險業務、人壽保險業務及財產保險業務。具體而言，太平人壽(本公司持有50.05%股權之附屬公司)運作之人壽保險分部就其毛承保保費額、總資產及盈利能力而言已成為本集團日益重要之部份。為向投資者提供額外指標以評估太平人壽之盈利能力及估值，本集團已議決披露太平人壽之內涵價值及新業務價值。內涵價值包括經調整股東資產淨值及未來有效業務可為股東創造之預期現金流之現值，扣減為支持有效業務而按照監管要求持有償付資本之成本。新業務價值乃指以精算方法評估的在過去一年售出的人壽保險新業務所產生的經濟價值。

## 2. 編製基準

本集團已委聘國際諮詢精算師普華永道(「普華永道」)，審查太平人壽編製於二零零八年十二月三十一日內涵價值及新業務價值時所採用之方法及假設與中國的保險公司一般採納的準則是否一致。按管理層的意見，普華永道並無發現太平人壽運用的方法及假設與中國的保險公司一般採納的準則有重大的差異。

## 3. 提示聲明

計算內涵價值及新業務價值乃基於有關未來經驗之若干假設，故此實際結果可能與作出該等計算時之預測有重大差異。從投資者角度看，本公司之估值乃按照本公司股份於某個別日子之股市價格計量。於評估本公司股份時，投資者不僅要慮及內涵價值及新業務價值，而且亦應考慮到其他多項因素。此外，本公司擁有太平人壽之50.05%股權。因此，不應把下列所披露之於二零零八年十二月三十一日之內涵價值及新業務價值全數作為本公司的估值。倘若彼等認為該等因素重要，及對本公司之估值關係重大。投資者務須特別留意該因素，及其他支持計算太平人壽內涵價值及新業務價值計算之因素。

# EMBEDDED VALUE OF TPL

## 4. EMBEDDED VALUE

At 31 December, HK\$ million

		2008	2007
Adjusted net worth	<b>a</b>	<b>3,083</b>	3,368
Value of inforce business before cost of capital and expense overrun	<b>b</b>	<b>7,069</b>	4,593
Cost of capital	<b>c</b>	<b>1,201</b>	640
Expense overrun	<b>d</b>	<b>403</b>	442
Value of inforce business after cost of capital and expense overrun	<b>e=b-c-d</b>	<b>5,465</b>	3,511
Embedded Value	<b>f=a+e</b>	<b>8,548</b>	6,879

Adjusted net worth is the audited shareholders' net assets of TPL as measured on a PRC statutory basis.

## 5. NEW BUSINESS VALUE

At 31 December, HK\$ million

		2008	2007
New business value before cost of capital and expense overrun	<b>a</b>	<b>2,099</b>	1,445
Cost of capital	<b>b</b>	<b>398</b>	225
Expense overrun	<b>c</b>	<b>836</b>	617
New business value after cost of capital and expense overrun	<b>d=a-b-c</b>	<b>865</b>	603

TPL's expense overrun is due to its significant investments in establishing a branch network infrastructure, initiating relationships with business partners, establishing computer systems and hiring a highly professional management team. As such expense overrun is due to the start-up costs of beginning and expanding upon TPL's business operations, the management of the Group and TPL believe that the expense overrun will diminish over time as TPL's scale of operations increases in the future.

# 太平人壽之內涵價值

## 4. 內涵價值

於十二月三十一日，百萬港元

		二零零八年	二零零七年
經調整資產淨值	a	3,083	3,368
有效業務扣除資本成本及 費用超支前之價值	b	7,069	4,593
資本成本	c	1,201	640
費用超支	d	403	442
有效業務扣除資本成本及 費用超支後之價值	e=b-c-d	5,465	3,511
內涵價值	f=a+e	8,548	6,879

經調整資產淨值是太平人壽按中國法定基準計量之審計後股東資產淨值。

## 5. 新業務之價值

於十二月三十一日，百萬港元

		二零零八年	二零零七年
新業務扣除資本成本及 費用超支前之價值	a	2,099	1,445
資本成本	b	398	225
費用超支	c	836	617
新業務扣除資本成本及 費用超支後之價值	d=a-b-c	865	603

太平人壽之費用超支乃由於對建設分支網絡基礎設施、與業務夥伴建立關係、添置電腦系統及聘請高度專業之管理團隊作出重大投資所致。鑒於該等費用超支乃由於太平人壽業務運作起初之開辦費用及擴張所致，本集團及太平人壽之管理層認為，有關費用超支將隨著太平人壽經營規模於日後逐步擴大而下降。

# EMBEDDED VALUE OF TPL

## 6. MOVEMENT ANALYSIS OF EMBEDDED VALUE

The following analysis shows the movement of the Embedded Value (after expense overrun) from 1 January 2008 to 31 December 2008.

*HK\$ million*

	<i>Notes</i>	
Embedded Value as at 1 January 2008		6,879
New business value	<i>a</i>	865
Expected return on Embedded Value	<i>b</i>	635
Assumption and modeling changes	<i>c</i>	(200)
Investment return variance	<i>d</i>	(442)
Expense variance	<i>e</i>	(59)
Income tax variance	<i>f</i>	318
Other experience variance	<i>g</i>	123
Exchange gain	<i>h</i>	429
		<hr/>
Embedded Value as at 31 December 2008		<u>8,548</u>

*Notes:*

- (a) New business contribution from sales of new business in 2008.*
- (b) Return on value of in-force business plus expected interest on adjusted net assets.*
- (c) Changes from model improvements and assumption changes having impact on the future distributable earnings of the in-force business.*
- (d) Difference between the actual investment return and expected investment return in 2008.*
- (e) Difference between the actual and expected expense in 2008.*
- (f) Difference between the actual and expected income tax in 2008.*
- (g) Difference between actual experience and expected experience mainly including mortality, morbidity, lapse, business tax and policyholder dividends.*
- (h) Exchange gain arising from appreciation of RMB.*

## 7. KEY ASSUMPTIONS

TPL has adopted the best estimate approach in setting the assumptions used in the calculation of its embedded value and new business value. The assumptions have been based on the actual experience of TPL and certain benchmarks set by referencing general PRC economic conditions and the experience of other life insurance companies.

# 太平人壽之內涵價值

## 6. 內涵價值之動態分析

以下分析反映自二零零八年一月一日至二零零八年十二月三十一日期間內涵價值(費用超支後)之動態變化。

百萬港元

	附註	
於二零零八年一月一日之內涵價值		6,879
新業務之價值	a	865
內涵價值預期回報	b	635
假設及模型變化	c	(200)
投資回報差異	d	(442)
費用差異	e	(59)
稅項差異	f	318
其他經驗差異	g	123
匯率收益	h	429
		<hr/>
於二零零八年十二月三十一日之內涵價值		8,548

附註：

- (a) 二零零八年新業務銷售之貢獻。
- (b) 有效業務回報加調整後淨資產預期利益。
- (c) 此項包括模型改進及假設改變所引起的變化，對未來有效業務之可分配收入將有所影響。
- (d) 此乃二零零八年實際投資回報與預期投資回報之間的差額。
- (e) 此乃二零零八年實際費用與預期費用之間的差額。
- (f) 此乃二零零八年實際稅項與預期稅項之間的差額。
- (g) 此乃二零零八年實際經驗與預期經驗之間的差額，主要包括死亡率、發病率、退保、營業稅及保單分紅。
- (h) 人民幣升值所產生的匯率收益。

## 7. 主要假設

太平人壽在設定計算內涵價值及新業務價值之假設時乃採納最佳估計方法。有關假設乃基於太平人壽之實際經驗，及參照中國之整體經濟狀況及其他壽險公司之經驗而設定之若干基準。

# EMBEDDED VALUE OF TPL

## 7.1 Risk discount rate

The risk discount rate represents the long-term, post-tax cost of capital of the investor for whom the valuation is made, together with an allowance for risk, taking into account factors such as the political and economic environment in the PRC.

As calculated, the discount rate is equal to the risk-free rate plus a risk premium. The risk free rate is based on the PRC ten-year government bond and the risk premium reflects the risk associated with future cash flows, including all of the risks which have not been considered in the valuation.

The risk discount rate currently applied by TPL is 11.5% for all in force and new business.

## 7.2 Investment return

Future investment returns have been calculated as the weighted average of the investment returns on existing assets and new assets assuming an investment return of 4.2% (2007: 5.0%) on new assets from fixed income securities. The investment returns on existing assets have been determined by the projected investment income in future years divided by the projected value of the assets. The calculation of projected investment income and the value of assets are based on yield to maturity, term to maturity and the book value of the assets.

The investment returns have been assumed to be 4.0% in 2009 (2007: assumed to be 4.57% in 2008), increasing to 4.5% in 2020 and thereafter (2007: 5.0% in 2026 and thereafter).

## 7.3 Expenses

Expenses have been projected based on benchmark assumptions. The expense overrun is derived from TPL's recent experience studies, and is applied to both the value of inforce business and new business value.

## 7.4 Tax

The tax rate is assumed to be 25% according to the tax regulations in the PRC.

## 7.5 Mortality

The experience mortality rates have been based on 70% of the China Life (2000-2003) table for non-annuities, with a three-year selection period. For annuitants, 80% and 70% of the China Life Annuity (2000-2003) table for males and females, respectively, have been assumed.

## 7.6 Morbidity

The experience morbidity assumptions have been based on the Group's own pricing tables. The loss ratios for short term accident and health insurance business have been assumed to be in the range of 21% to 75%.

# 太平人壽之內涵價值

## 7.1 風險貼現率

風險貼現率乃指接受估值之投資者之稅後長期資本成本，同時慮及中國有關政治經濟環境等因素對風險作出調整。

計算時，貼現率乃按無風險利率加風險溢價計算。無風險利率乃基於中國十年政府債券，而風險溢價反映與未來現金流有關之風險，包括所有在估值時未有慮及之風險。

太平人壽現時就其所有有效業務及新業務所採納之風險貼現率均為11.5%。

## 7.2 投資回報

未來投資回報乃按現有資產及新貨幣之加權平均投資回報計算，假設新固定收入證券資產之投資回報為4.2%（二零零七年：5.0%）。現有資產之投資回報乃按未來年度之預期投資收益除以有關資產之預期價值計算。預期投資收益及資產價值乃基於滿期收益率、發行期限及資產之賬面值計算。

投資回報假設於二零零九年為4.0%（二零零七年：假設於二零零八年為4.57%），於二零二零年及以後年度提高至4.5%（二零零七年：於二零二六年及以後年度為5.0%）。

## 7.3 費用

費用乃根據基準假設而預計。費用超支乃根據太平人壽近期之經驗考察得出，並應用於有效業務價值及新業務價值。

## 7.4 稅項

根據中國訂定之稅務規例，稅率為25%。

## 7.5 死亡率

經驗死亡率乃按中國人壽非年金表（2000-2003），加三年選擇期之70%比率為基準計算。就一年年金產品而言，按中國人壽非年金表（2000-2003）的男性及女性的比率分別為80%及70%為基準計算。

## 7.6 發病率

發病率根據本集團本身的定價表假設計算。短期意外及健康險業務的賠付率乃假設以21%到75%之間的比率計算。



# EMBEDDED VALUE OF TPL

## 7.7 Lapses

The lapse assumptions have been based on TPL's actuarial pricing assumptions and adjusted to reflect the results of its recent experience studies.

## 7.8 Required capital

The required capital has been based on 120% of minimum solvency margin (2007: 100%).

## 8. SENSITIVITY TESTING

The sensitivity testing in respect of the following key assumptions are summarized below:

*At 31 December 2008, HK\$ million*

Assumptions	Value of inforce business after cost of capital and expense overrun	New business value after cost of capital and expense overrun
<b>Base scenario</b>	<b>5,465</b>	<b>865</b>
Risk discount rate of 10.5%	5,964	1,050
Risk discount rate of 12.5%	5,032	705
Investment return increased by 25bp every year	6,037	1,034
Investment return decreased by 25bp every year	4,978	697
10% increase in maintenance expenses	5,265	794
10% decrease in maintenance expenses	5,664	938
10% increase in mortality and morbidity rates and claims ratio	5,388	846
10% decrease in mortality and morbidity rates and claims ratio	5,542	887
10% increase in lapse rates	5,426	843
10% decrease in lapse rates	5,502	889
Policyholder dividend increased to 80%	5,136	736
Lapse rates for Universal Life increased to 50% at the end of the 10th policy year	5,335	866
Required capital at 100% of solvency margin	5,716	948
Required capital at 150% of solvency margin	5,036	730

# 太平人壽之內涵價值

## 7.7 退保

退保假設乃基於太平人壽之實際定價假設，並作出調整，以反映其最近之經驗考察結果。

## 7.8 資本要求

資本要求是按最低償付能力的120%計算(二零零七年：100%)。

## 8. 敏感性測試

有關如下主要假設之敏感性測試概述如下：

於二零零八年十二月三十一日，百萬港元

假設	有效業務於扣除 資本成本及費用 超支後之價值	新業務於扣除 資本成本及費用 超支後之價值
基準假設	5,465	865
風險貼現率為10.5%	5,964	1,050
風險貼現率為12.5%	5,032	705
投資回報每年提高25點子	6,037	1,034
投資回報每年下跌25點子	4,978	697
維持費用提高10%	5,265	794
維持費用下跌10%	5,664	938
死亡率及發病率及賠付率提高10%	5,388	846
死亡率及發病率及賠付率下跌10%	5,542	887
退保率提高10%	5,426	843
退保率下跌10%	5,502	889
保單持有人股息提高至80%	5,136	736
萬能壽險於第十個保單年度之退保率提高至50%	5,335	866
資本要求按100%的償付能力	5,716	948
資本要求按150%的償付能力	5,036	730