TABLE III-2

BENEFIT VALUE PER EMPLOYEE FOR RETIREMENT BENEFIT

		STANDARD POPULATION - PUBLIC SECTOR SERVICE				PRIVATE EMPLOYER'S RETIREMENT BENEFIT VALUE FACTOR		
		0 - 5	6 - 20	21 - 40	TOTAL	0 - 5	6 - 20	21 - 40
20 - 35	NUMBER	2			2	0.0363		
	TOT. SAL.	27,500			27,500			
	AVG. SAL.	13,750			13,750			
AGE 36 - 45	NUMBER	1	2		3	0.0550	0.0609	
	TOT. SAL.	12,000	22,000		34,000			
	AVG. SAL.	12,000	11,000		11,333			
46 - 55	NUMBER	3	1	1	5	0.0862	0.1071	0.1667
	TOT. SAL.	39,000	14,000	15,000	68,000			
	AVG. SAL.	13,000	14,000	15,000	13,600			
TOTAL:	NUMBER	6	3	1	10			
	TOT. SAL.	78,500	36,000	15,000	129,500			
	AVG. SAL.	13,083	12,000	15,000	12,950			

TOTAL BENEFIT VALUE = 2 x 13,750 x 0.0363 +

1 x 12,000 x 0.0550 + 2 x 11,000 x 0.0609 +

3 x 13,000 x 0.0862 + 1 x 14,000 x 0.1071 + 1 x 15,000 x 0.1667

= $10,360

$$\text{BENEFIT VALUE PER EMPLOYEE} = \frac{10,360 \times 100}{129,500} = 8.00\% \text{ of pay}$$

-- the 2 employees in the 20-35/0-5 age/service group earn on average $13,750 per month

-- the value of the retirement benefit is $13,750 x 0.0363 = $500 per participant or $1,000 for all employees in the group.

4. The results of the calculations for each group are summed to give the total benefit value, in dollars, for the entire Standard Population.

5. Since the benefit is pay-related, the total benefit value is divided by the total payroll of the Standard Population to derive the benefit value per employee, 8.0% of pay.

A similar process is followed for each benefit plan of an employer. In each case, the same Standard Population is used. The result is a set of standardized benefit values per employee for each plan of each employer. The appendices in this report contain our recommendations on how certain specific benefits should be valued. The next section will demonstrate how the final value of private sector benefit plans is derived.

C. DERIVING TOTAL PRIVATE SECTOR BENEFIT VALUES

The final private sector benefit values are derived by combining the standardized benefit values per employee with employee data from the actual workforce. A simplified illustration of this process is shown in Table III-3.

TABLE III-3

STANDARD POPULATION METHOD ILLUSTRATION OF DEVELOPMENT OF STANDARDIZED BENEFIT VALUES

INDUSTRY	TOTAL EMPLOYEES IN INDUSTRY	SAMPLE COMPANY	TOTAL EMPLOYEES IN COMPANY	EMPLOYEES ELIGIBLE TO PARTICIPATE IN RETIREMENT PLAN	EMPLOYEES ELIGIBLE TO PARTICIPATE IN MEDICAL PLAN	BENEFIT VALUE PER * EMPLOYEE FOR STANDARD POPULATION RETIREMENT	BENEFIT VALUE PER * EMPLOYEE FOR STANDARD POPULATION MEDICAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Finance	150,000	A	20	20	20	8%	$477
		B	100	46	100	9%	$450
Manufac-turing	900,000	C	1000	1000	1000	10%	$600
		D	2000	2000	2000	15%	$550

Standardized Benefit Values By Industry (= benefit values from Standard Population weighted by employees in sample companies)

Finance
Retirement = (20 x 8% + 46 x 9%)/120 = 4.78%
Medical = (20 x 477 + 100 x 450)/120 = $454.50

Manufacturing
Retirement = (1000 x 10% + 2000 x 15%)/3000 = 13.33%
Medical = (1000 x 600 + 2000 x 550)/3000 = $566.67

Standardized Benefit Values (= Standardized Benefit Values By Industry weighted by industry employment)

Retirement = (150,000 x 4.78% + 900,000 x 13.33%)/1,050,000 = 12.11%

Medical = (150,000 x 454.50 + 900,000 x 566.67)/1,050,000 = $550.65

* Hypothetical values only; used for illustrative purposes.

1. The upper left portion of the Table summarizes the demographic characteristics of the employed workforce and the sampled private sector employers. In this illustration we have:

   -- two industries, finance and manufacturing, employing 150,000 and 900,000 employees respectively in Hong Kong

   -- from each industry, we have selected two companies as a sample:

      - A and B are from the finance sector and employ 20 and 100 employees respectively

      - C and D are from the manufacturing sector and employ 1,000 and 2,000 employees respectively

   -- each of the companies has a retirement and medical plan

   -- in some cases, all employees are eligible to participate in a plan; in other cases, only certain employees are eligible to participate (e.g. the retirement plan for company B).

2. The upper right portion of the Table shows the benefit value per employee for each plan of each employer. These amounts are calculated using the Standard Population, as described in the previous section. For instance, the 8% benefit value per employee for Company A's retirement plan is derived as shown in Table III-2. We have selected one pay-related benefit (retirement) and one non-pay-related benefit (medical) for this illustration.

3. The middle portion of the Table shows how standardized benefit values are calculated within an industry. This involves weighting the benefit values per employee (from the upper right portion of the Table) by the actual number of employees taking into account those eligible to participate (from the upper left portion of the Table).

4. The lower portion of the Table shows how the final standardized benefit values are derived. This involves weighting the industry results (from the middle portion of the Table) by total employment statistics (upper left portion of the Table).

D. COMPARING TOTAL COMPENSATION

To complete the process, we show an illustration of a total compensation comparison between the public and private sectors. We then illustrate one way of adjusting public sector compensation to achieve total compensation equality (a simple modification to this calculation would enable us to preserve the "gap" between public and private sector benefits).

For purposes of the illustration, assume that we have identified a comparable position of the two sectors. Monthly base pay in the public sector is $10,000 and the benefit values for retirement and medical have been calculated to be 15% of pay and $500 respectively. The corresponding position in the private sector pays $11,000 per month and the benefit values, as shown in Table III-3, are 12.11% and $550.65.

Then, a comparison of total compensation is as follows:

	Public Sector	Private Sector
Annual base salary	$120,000	$132,000
Fixed bonus	0	11,000
Total cash compensation	$120,000	$143,000
Value of retirement benefits	$ 18,000	$ 15,985
Value of medical benefits	500	551
Total benefit value	$ 18,500	$ 16,536
Total compensation	$138,500	$159,536

If we wish to establish total compensation equality, there are many ways of doing so. One possibility is to establish it on a component-by-component basis. However, this method does not recognize that, in the real world, each employer should establish its benefit program in the light of its own circumstances and the needs of its employees. Therefore, the method shown below is based on adjusting only the cash component of total compensation to achieve equality. The method must reflect the fact that some benefits are pay-related and some are not; it also has to allow for differences in hours worked. For purely illustrative purposes, let us assume that public service scheduled and leave hours are 2080 and 120 hours per year respectively and that the corresponding private sector hours are 1924 and 111 respectively.

Then define the following terms:

TC = total compensation
ABS = annual base salary
FB = fixed bonus
PCT = percentage of ABS for pay-related benefits
D = dollars for non-pay-related benefits
S = scheduled hours of work per year
L = scheduled leave hours per year

Then, if a 'c' subscript denotes civil service and 'p' the private sector, total compensation equality is achieved when:

$$TCc = TCp$$

which is equivalent to:

$$\frac{ABSc + ABSc \times PCTc + Dc}{Sc - Lc} = \frac{ABSp + FBp + ABSp \times PCTp + Dp}{Sp - Lp}$$

Solving the equation for ABSc, the annual base salary in the civil service, gives:

$$ABSc = \left([ABSp + FBp + ABSp \times PCTp + Dp] \times \frac{Sc - Lc}{Sp - Lp} - Dc\right) \times \frac{1}{(1 + PCTc)}$$

$$= \left(TCp \times \frac{Sc - Lc}{Sp - Lp} - Dc\right) \times \frac{1}{(1 + PCTc)}$$

In words, this formula can be expressed as:

ANNUAL BASE SALARY IN CIVIL SERVICE	=	(PRIVATE SECTOR TOTAL COMPEN- SATION	x	RATIO OF WORKING HOURS	-	(CIVIL SERVICE NON-PAY- RELATED BENEFITS)	ADJUSTED FOR	CIVIL SERVICE PAY-RELATED BENEFITS

In our example,

$$ABSc = \left([132{,}000 + 11{,}000 + 15{,}985 + 551] \times \frac{2{,}080 - 120}{1{,}924 - 111} - 500\right) \times \frac{1}{1 + 0.15}$$

$$= \$149{,}540$$

On a total compensation basis, the public private sector results are equal when the results are as shown below:

	Public Sector	Private Sector
Annual base salary	$149,540	$132,000
Fixed bonus	0	11,000
Total cash compensation	149,540	143,000
Value of retirement benefits	22,431	15,985
Value of medical benefits	500	551
Total benefit value	22,931	16,536
Total compensation	$172,471	$159,536

The dollar amount in the public sector is greater than the private sector because of the longer hours worked in this illustration. If working hours were identical, the results would have been as follows:

	Public Sector	Private Sector
Annual base salary	$138,292	$132,000
Fixed bonus	0	11,000
Total cash compensation	138,292	143,000
Value of retirement benefits	20,744	15,985
Value of medical benefits	500	551
Total benefit value	21,244	16,536
Total compensation	$159,536	$159,536

E. COMMENTS ON STANDARD POPULATION METHOD

The Standard Population Method is probably the most powerful and flexible method available for assessing total compensation. This is the result of being able to construct the standard population in the manner which gives the fairest results, taking into account the design of the pay level survey.

To take a very simple example, suppose we have a standard population with the age/service/salary characteristics shown earlier in Table III-2. This standard population can be sub-divided into the two populations shown in Table III-4, according to whether the employee's salary is above or below $10,999 per month.

Suppose we then wish to value a set of benefits, the eligibility for some of them being restricted to persons earning equal to or over $11,000 per month. We then have two choices:

-- apply the benefit program to the Standard Population shown in Table III-2 and determine the benefit value, or

-- apply the benefit program separately to the Standard Populations in Table III-4, determine the benefits values and then aggregate the results.

In this example, the second approach will clearly provide a more accurate result. The issue is whether the extra precision is material in terms of the overall total compensation value. In practice, Standard Population methods are generally computerized. It is, therefore, a relatively straightforward process to test for materiality.

TABLE III-4

STANDARD POPULATION FROM TABLE III-2 SUBDIVIDED

			SERVICE			
			0 - 5	6 - 20	21 - 40	TOTAL
	20 - 35	NUMBER	1			1
		TOT. SAL.	7,500			7,500
		AVG. SAL.	7,500			7,500
AGE	36 - 45	NUMBER	0	1		1
		TOT. SAL.	0	10,000		10,000
		AVG. SAL.	0	10,000		10,000
	46 - 55	NUMBER	1	0	0	1
		TOT. SAL.	9,000	0	0	9,000
		AVG. SAL.	9,000	0	0	9,000
	TOTAL:	NUMBER	2	1	0	3
		TOT. SAL.	16,500	10,000	0	26,500
		AVG. SAL.	8,250	10,000	0	8,833

			SERVICE			
			0 - 5	6 - 20	21 - 40	TOTAL
	20 - 35	NUMBER	1			1
		TOT. SAL.	20,000			20,000
		AVG. SAL.	20,000			20,000
AGE	36 - 45	NUMBER	1	1		2
		TOT. SAL.	12,000	12,000		24,000
		AVG. SAL.	12,000	12,000		12,000
	46 - 55	NUMBER	2	1	1	4
		TOT. SAL.	30,000	14,000	15,000	59,000
		AVG. SAL.	15,000	14,000	15,000	14,750
	TOTAL:	NUMBER	4	2	1	7
		TOT. SAL.	62,000	26,000	15,000	103,000
		AVG. SAL.	15,500	13,000	15,000	14,714