

## **On selection of the discount rate for actuarial assessment of damages in personal injury litigation in Hong Kong**

WAI SUM CHAN\*

*Department of Statistics and Actuarial Science, The University of Hong Kong, Hong Kong, People's Republic of China*

AND

FELIX WAI HON CHAN†

*Department of Professional Legal Education, The University of Hong Kong, Hong Kong, People's Republic of China*

[Received on 6 September 2002; revision received on 18 November 2002; accepted on 23 November 2002]

When assessing future pecuniary loss in personal injury litigation, courts often award a lump sum amount to compensate the plaintiff for future loss of earnings and to cover future expenses. The discount rate is essential to the actuarial calculation of the award. It is the rate of interest the claimant can be expected to achieve on the lump sum before it is used up. Conventionally, the Hong Kong Courts followed the United Kingdom authorities in many judicial decisions. The Lord Chancellor has recently set the discount rate at 2.5 per cent per annum. However, the Lord Chancellor's decision was based on the economic conditions of the United Kingdom, not of Hong Kong. This paper examines, both theoretically and empirically, the proper discount rate in the context of Hong Kong's local circumstances. We conclude that a rate of 3.5 per cent per annum is more appropriate for Hong Kong.

*Keywords:* discount rate; Fisher equation; multipliers; purchasing power parity; uncovered interest rate parity.

### **1. Introduction**

When assessing future pecuniary loss in personal injury litigation, courts often use the multiplicand/multiplier approach. The objective is to calculate a lump sum amount to compensate the plaintiff for future loss of earnings, the loss of pension rights, and to cover future expenses. The lump sum is computed as the product of a multiplicand and a multiplier. The multiplicand<sup>1</sup> is established by evidence put before the judge, who then has to decide an appropriate multiplier. The multiplier is used to discount the future pecuniary values into a present-day lump sum amount.

Multipliers have played a central role in the determination of damages in personal injury litigation. In the United Kingdom, for many years, the multiplier figure was difficult

\* E-mail: chanws@hku.hk

† E-mail: fwhchan@hku.hk

<sup>1</sup> Examples include: the future annual loss of income, the expected annual loss of pension benefits after retirement, and annual consequential expenses, such as cost of care.

to determine on any scientific or national basis. In 1984 the first edition of the Ogden Tables<sup>2</sup> was published. The tables provide multipliers which are computed using actuarial principles.

The Ogden Tables initially had no legal authority. Although they have been widely used by judges at first instance since 1984, they have only recently received formal recognition. Under the Civil Evidence Act 1995, the actuarial tables (together with explanatory notes) for use in personal injury and fatal accident cases, issued from time to time by the Government Actuary's Department, are admissible in evidence for the purpose of assessing, in an action for personal injury, the sum to be awarded as general damages for future pecuniary loss. In July 1998, the House of Lords made an innovative decision in *Wells v. Wells*.<sup>3</sup> It approved actuarial evidence as the primary method of assessing future pecuniary loss, rather than a mere check. The Ogden Tables should be regarded as a starting point for the selection of the appropriate multipliers in the United Kingdom.

The use of the Ogden Tables in *Wells v. Wells* has itself provoked some debate about exactly which tables to use and how to choose the discount rate.<sup>4</sup> Tables 1–18 of the fourth edition of the Ogden Tables<sup>5</sup> reflect past mortality rates, whilst Tables 19–36 reflect the government actuary's future mortality projections. The decision in *Worrall v. Powergen plc*<sup>6</sup> represented a landmark in the choice of mortality assumptions. It is now common ground in the United Kingdom that the projected mortality tables should be used.

An important factor in determining multipliers is the net rate of return the claimant might expect to receive from a reasonably prudent investment of the lump sum. Until around five years ago, the rate used in the United Kingdom varied between 4% and 5% (per annum), which assumed the investment would be in a portfolio of equities and gilts.<sup>7</sup> However, in the 1998 House of Lords decision in *Wells v. Wells*,<sup>8</sup> their Lordships ruled that equities and gilts were an inappropriate yardstick and that a lower-risk investment vehicle such as Index-Linked Government Stock (ILGS), which at that time could be expected to earn 3% per annum (after tax and inflation), should be used to fix the discount rate. The House of Lords went on to lay down a guideline rate of return of 3% to be applied in other actions, unless there was a substantial change in the economic environment, until a rate was prescribed under section 1 of the Damages Act 1996 by the Lord Chancellor. Since the House of Lords' decision in 1998, the net (after tax and inflation) return on ILGS has fallen significantly. The average net rate of return on ILGS was 1.64% per annum for the two-year period 1999–2000.<sup>9</sup> On 25 June 2001 the Lord Chancellor made the Damages (Personal Injury) Order 2001 pursuant to section 1 of the Damages Act of 1996. In reflecting the

<sup>2</sup> Officially named *Actuarial Tables with Explanatory Notes for Use in Personal Injury and Fatal Accident Cases*, and prepared by the British Government Actuary's Department. These tables are generally called the 'Ogden Tables', after Sir Michael Ogden QC, the chairperson of the joint working party of actuaries and lawyers responsible for victim compensation, who was responsible for their publication.

<sup>3</sup> [1999] 1 A.C. 345.

<sup>4</sup> The Lord Chancellor's Department has issued a consultation paper on this topic ([www.lcd.gov.uk/consult/general/damageshd.htm](http://www.lcd.gov.uk/consult/general/damageshd.htm)).

<sup>5</sup> See e.g. de Wilde (2001).

<sup>6</sup> [1999] P.I.Q.R. Q103.

<sup>7</sup> *Wells v. Wells* [1997] 1 W.L.R. 652.

<sup>8</sup> Note 3 above.

<sup>9</sup> See de Wilde (2001, p. 186).

change in the average redemption yield on ILGS, the Lord Chancellor set a discount rate of 2.5% per annum. Following the announcement of the decision, questions were raised in public as to the correctness of the 2.5% rate.<sup>10</sup> The Lord Chancellor later re-confirmed the 2.5% rate and supporting reasons were released.<sup>11</sup> It is expected that the fixed discount rate of 2.5% per annum will be used in all settlements ‘for the foreseeable future’. This element of certainty should avoid the deliberate delaying of settlements by claimants which was observed whilst *Wells v. Wells* was in progress through the courts in the United Kingdom.

To illustrate the steps of calculating the multiplier in a personal injury case using the Ogden Tables (fourth edition), a hypothetical example is employed.<sup>12</sup> The plaintiff is a female, aged 28. She lives in London and is an experienced English teacher who was working in a public secondary school on an annual salary of £25 000 net of tax. As a result of her injuries, she has lost her job. The task of estimating her loss of earnings to retirement age of 60 is to be undertaken as follows:

- (a) Look up Table 24 for loss of earnings to pension age 60 for females.
- (b) The appropriate rate of return is determined to be 2.5% per annum, based on the Damages (Personal Injury) Order 2001 made by the Lord Chancellor on 25 June 2001.
- (c) Table 24 shows that, on the basis of a 2.5% return, the multiplier for a female aged 28 is 21.83.
- (d) It is now necessary to take account of risks other than mortality. Let us assume that economic activity for the next few years, for the purpose of this example, is regarded as being ‘high’. Ogden Table C would require 21.83 to be multiplied by 0.95.
- (e) Further adjustment is necessary because the plaintiff (i) is in a secure non-manual job, and (ii) lives in the South East of England.

The adjustment for risks other than mortality should be made as follows:

Basic adjustment to allow for short-term high economic activity (Table C)	0.95
Adjustment to allow for occupation, say	<u>+0.01</u>
	0.96
Adjustment for geographical region, say	<u>+0.01</u>
	0.97

- (f) The original multiplier taken from Table 24, namely 21.83, must therefore be multiplied by 0.97, resulting in a revised multiplier for use of 21.18.
- (g) The damages for loss of earnings are assessed as £529 500 (£25 000 × 21.18).

## 2. The Hong Kong situation

Hong Kong was a British colony for more than 150 years (1841–1997). Conventionally, the Hong Kong Courts followed the UK authorities in choosing multipliers. Most judges select the multipliers by reference to a spread of multipliers in comparable UK and Hong Kong cases. This conventional approach was first challenged in the Hong Kong

<sup>10</sup> See e.g. a commentary by Braithwaite ([www.exchangechambers.co.uk/mult.htm](http://www.exchangechambers.co.uk/mult.htm)) and Hogg (2002).

<sup>11</sup> A statement entitled *Setting the Discount Rate—Lord Chancellor’s Reasons* was released on 27 July 2001 by the Lord Chancellor’s Department ([www.lcd.gov.uk/civil/discount.htm](http://www.lcd.gov.uk/civil/discount.htm)).

<sup>12</sup> More examples can be found in the explanatory notes of the Ogden Tables (see Note 2 above).

Court of First Instance in 1995, in *Chan Pui Ki (an infant) v. Leung On*.<sup>13</sup> This case is a milestone in personal injury litigation in Hong Kong.<sup>14</sup> Prior to this, there were no Hong Kong cases which led to expert evidence given by actuaries, and economists canvassed the appropriateness of conventional discount rates and conventional multipliers in Hong Kong. In the Court of First Instance, the trial judge abandoned the conventional method of choosing multipliers and admitted actuarial evidence to calculate the appropriate multiplier. The case went to the Court of Appeal in 1996.<sup>15</sup> The appeal was regarded by the legal profession in Hong Kong as a test case for challenging the conventional approach to the assessment of damages for future loss of earnings. The Chief Justice at that time specially convened a five-person court to hear the case. The Court of Appeal ruled that the conventional approach for selecting the multipliers should be restored. It also discouraged any further use of expert evidence given by economists and actuaries in Hong Kong personal injury litigation.

Two years after the Hong Kong Court of Appeal judgement, the House of Lords decided *Wells v. Wells*. It approved actuarial evidence as the primary method of assessing future pecuniary loss. Although in theory judicial decisions in the United Kingdom may no longer be binding on the Hong Kong Courts after the change of sovereignty in 1997, these decisions are still highly persuasive. It is anticipated that the conventional approach to choosing multipliers in Hong Kong will be hotly contested again, probably before the Hong Kong Court of Final Appeal.<sup>16</sup>

Even if the Hong Kong Courts were to follow the *Wells v Wells* decision, it would not be practical for Hong Kong to simply adopt the Ogden Tables, as they were constructed in the light of circumstances in the United Kingdom, not those in Hong Kong. For example, Fig. 1 compares the population mortality experience between Hong Kong and England.<sup>17</sup> The graph plots the ratios of mortality expressed as percentages of English rates to Hong Kong rates. It shows that Hong Kong enjoys a more favourable mortality pattern (except for a few ages) as compared to England. For males aged 16–19, the ratios are as high as 300%!<sup>18</sup> With the availability of up-to-date benchmark population data and mortality projections based on the results of the 2001 Hong Kong Population Census, a set of Hong Kong actuarial multiplier tables have been constructed (Chan & Chan, 2003).<sup>19</sup> The impact of better mortality rates in Hong Kong (relative to England and Wales) on multipliers is demonstrated by a few examples in Table 1.

<sup>13</sup> [1995] 3 H.K.C. 732.

<sup>14</sup> For a detailed discussion of this case, see Chan & Chan (2000).

<sup>15</sup> *Leung On & Anor v. Chan Pui Ki (an infant)* [1996] 2 H.K.C. 565.

<sup>16</sup> The *Chan Pui Ki* case was not pursued further by the plaintiff in the Hong Kong Court of Final Appeal, presumably because the parties had settled the matter out of court.

<sup>17</sup> English Life Tables are based on mortality experience in England and Wales. Scotland and Northern Ireland have their own sets of life tables.

<sup>18</sup> It might be due to the fact that teenage drivers are not common in Hong Kong. On the other hand, motor vehicle accidents are fairly common for young men in England. However, there are not very many teenage deaths in either region and random fluctuations of the mortality ratio may be large.

<sup>19</sup> Both the Ogden Tables and the Hong Kong Tables are based on mortality experience of the general population. It should be noted that mortality rates may vary with income and social class, but it seems that the UK and Hong Kong courts do not wish to make allowance for this. Furthermore, the application of sex-based actuarial factors in the Ogden Tables, which is currently permitted under Section 45 of the Sex Discrimination Act, is followed in the construction of the Hong Kong multiplier tables.

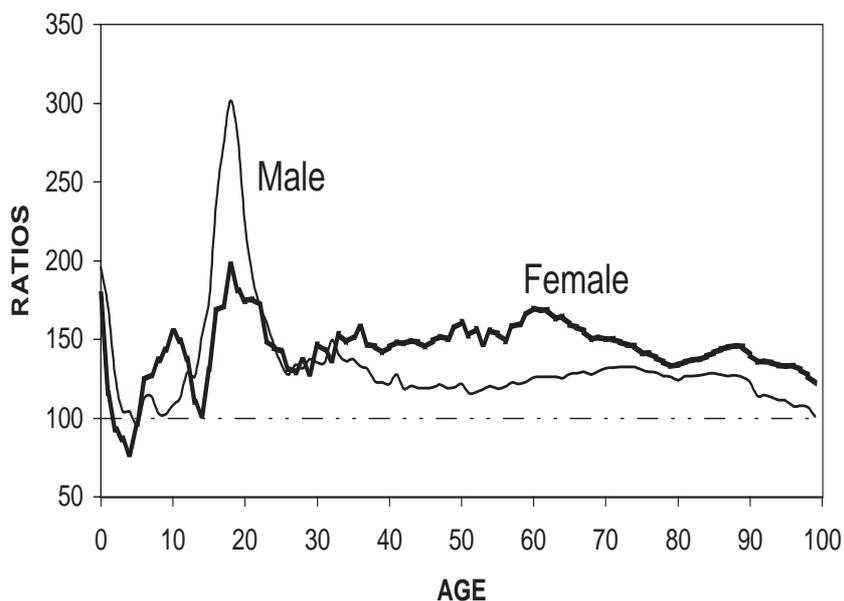


FIG. 1. Ratios of mortality expressed as percentages of English rates to Hong Kong rates. The English mortality rates are obtained from the interim life tables for England and Wales 1998–2000 published by the British Government Actuary's Department. The Hong Kong 2000 mortality rates are obtained from *Hong Kong Life Tables 1996–2031* published by the Census and Statistics Department, the Hong Kong SAR government.

TABLE 1 *Multipliers for pecuniary loss for life (males, discount rate at 2% per annum)*

Age at date of trial	Ogden Tables		Hong Kong multiplier tables	
	Observed mortality	Projected mortality	Observed mortality	Projected mortality
5	37.12	38.60	38.24	39.19
25	30.99	33.01	32.48	33.78
55	17.13	19.66	19.43	20.66

The Hong Kong courts have been slow to move to a standard method of assessing future loss by means of actuarial evidence. The need for reform is pressing. The publication of the Hong Kong actuarial multiplier tables would serve as a stepping stone to that destination.

### 3. Selecting the discount rate for Hong Kong

#### 3.1 Background

The discount rate is essential to the actuarial calculation of the multipliers. It is the rate of interest the claimant can be expected to achieve on the lump sum of the award before it is used up. The lower the rate of interest assumed, the larger the multiplier, and so the

larger the award. For example, we consider the multipliers for pecuniary loss for life of a male aged 20 in England. Using Table 19 of the fourth edition of the Odgen Tables, the multiplier is 27.55 with a 3% per annum discount rate, whilst the multiplier is 34.56 with a 2% per annum discount rate. The reduction of the discount rate from 3–2% will lead to a more than 25%<sup>20</sup> increase in the compensation.

In Hong Kong, *Chan Pui Ki* was the first assault on the use of the conventional discount rates for calculating loss of future earnings. The expert evidence given by the actuaries and economists in the trial concluded that the real rate of return, or discount rate, could not achieve 4–5% per annum in Hong Kong. The trial judge accepted 2.7% per annum as the appropriate discount rate in Hong Kong. However, the decision was overruled by the Hong Kong Court of Appeal and the conventional discount rates of 4–5% per annum were restored. The Court of Appeal also criticized the trial judge’s calculations for the discount rate as highly artificial and erroneous.

Unfortunately, index-linked government securities are not available in Hong Kong. The current approach of fixing the discount rate by reference to ILGS in the United Kingdom would not be applicable to Hong Kong. In this article, our main objective is to recommend an appropriate discount rate in the context of Hong Kong’s local circumstances.

### 3.2 Theoretical considerations

The Hong Kong dollar is officially linked to the US dollar at the rate of 7.8 Hong Kong dollar to one US dollar. This linked exchange rate system, which has been in existence since October 1983, is the cornerstone of Hong Kong’s financial system. Mr Tung Chee-hwa, the Chief Executive of the Hong Kong Special Administrative Region Government, reiterated that the linked system is a long-term government policy for Hong Kong.<sup>21</sup>

Using some economic relationships, together with the linked exchange rate system, we explore the theoretical rates of real return of Hong Kong government securities. Economic theory suggests that differentials between the expected inflation rates in the two countries should be linked to the expectation of any exchange rate movement between the two countries’ currencies. This is known as the purchasing power parity (PPP) relationship:

$$\pi_{t+1}^F - \pi_{t+1}^D = E_{t+1} - E_t \quad (3.1)$$

where  $\pi_{t+1}^F$  is the market’s forecast for the change in the foreign price level between periods  $t$  and  $t + 1$ , and  $\pi_{t+1}^D$  is the market’s equivalent one step ahead forecast for domestic inflation,  $E_{t+1}$  is the market’s one step ahead forecast for the spot exchange rate made at time  $t$ , and  $E_t$  is the spot exchange rate. In Hong Kong (HK), the HK/US exchange rate is pegged. Therefore, it implies from PPP that

$$\pi_{t+1}^{\text{HK}} \approx \pi_{t+1}^{\text{US}}. \quad (3.2)$$

Under the uncovered interest rate parity condition,

$$i_{t+1}^F - i_{t+1}^D = E_{t+1} - E_t + \eta_t \quad (3.3)$$

<sup>20</sup>  $(\frac{34.56-27.55}{27.55}) \times 100\%$ .

<sup>21</sup> See e.g. the article ‘No chance of peg changing, says chief’, *South China Morning Post*, 3 July 2002.

TABLE 2 *Average and current rates of return of US TIS*

Securities	Average returns (per annum)	Current rates (per annum)
Treasury inflation-indexed notes	3.76%	3.71%
Treasury inflation-indexed bonds	3.84%	3.82%
Overall average	3.80%	3.78%

Source: Datastream (Series codes: USYTNTII and USYTNBII).

where  $i_{t+1}^F$  is the foreign one-period nominal interest rate,  $i_{t+1}^D$  is the domestic one-period nominal interest rate, and  $\eta_t$  is a risk premium required for compensating for the uncertainty surrounding future inflation differentials. If (3.2) holds, then the risk premium ( $\eta_t$ ) would be zero. It implies, in Hong Kong, that

$$i_t^{\text{HK}} \approx i_t^{\text{US}}. \quad (3.4)$$

Finally, the Fisher (1930) equation states that the nominal return  $i$  required by investors to induce them to purchase and hold a security is made up of two components: the expected rate of inflation ( $\pi$ ), and the real rate of return ( $r$ ), i.e.

$$i_t = \pi_{t+1} + r_t. \quad (3.5)$$

Clearly, if Hong Kong is a world with perfect capital mobility, fixed US exchange rate<sup>22</sup> and risk-neutral investors, both (3.2) and (3.4) should hold, implying from (3.5) that the real rates of return on securities with identical characteristics issued by the Hong Kong and US governments should be the same.

Following the principle in *Wells v. Wells*, the discount rate should be chosen by reference to the real rates of return<sup>23</sup> from inflation-protected government securities. Unfortunately, there are no inflation-indexed government securities in Hong Kong. Using the economic relationships discussed above, the theoretical expected real rates of return for Hong Kong government securities should be parallel to those of the United States. Therefore, returns from the US Treasury inflation-indexed securities (TIS<sup>24</sup>) would determine the expected real interest rates in Hong Kong. The following table shows the average rates of US 10-year TIS notes and 30-year TIS bonds for the three years leading up to June 2002.<sup>25</sup> The current rates (as of June 2002) are also given.

<sup>22</sup> The linked exchange rate system in Hong Kong is likely a long-term policy (see Note 21 above). Dropping the long-standing linkage between the Hong Kong and US dollars could lead to outflow of capital, devaluation of currency, and plummeting real estate market as experienced in the early 1980s following the general agreement between Great Britain and China over the return of Hong Kong to Chinese rule in 1997.

<sup>23</sup> When the rate of return is a real rate, it is implicitly assuming two things: (a) that the rate of return on investments exceeds inflation by some percentage and (b) that the payments being discounted are linked to inflation.

<sup>24</sup> TIS sometimes are referred to as TIPS, which stands for Treasury inflation-protected securities. The US Treasury and the Federal Reserve typically use the TIS acronym, so this article follows that convention. See Emmons (2000) for detailed descriptions of TIS.

<sup>25</sup> The Lord Chancellor in the United Kingdom also used the three-year average (see Note 11 above).

### 3.3 Empirical findings

Hong Kong's Exchange Fund was established by the Currency Ordinance of 1935 (later renamed the Exchange Fund Ordinance). Since its inception, the fund has held the backing to the currency note issue of Hong Kong. In 1976, the Hong Kong Government began to transfer its fiscal reserves to the Exchange Fund. This arrangement was introduced to avoid fiscal reserves having to bear exchange risks arising from investments in foreign currency assets and to centralize the management of the government's financial assets. Through this transfer of the fiscal reserves, the bulk of the Hong Kong Government's financial assets are, therefore, placed with the Exchange Fund. The Hong Kong Monetary Authority (HKMA), a quasi-central bank of Hong Kong, has been managing the fund since 1993.

Exchange Fund Bills and Notes are Hong Kong dollar debt securities issued by the Hong Kong Monetary Authority. Analogous to the US Treasury securities, they are general (unsecured) obligations of the Hong Kong Government for the account of the Exchange Fund and rank *pari passu* with all other unsecured indebtedness of the Hong Kong Government. Ten-year Exchange Fund Notes were first introduced in October 1996 and the total outstanding amount was more than 44 000 million Hong Kong dollars as of the end of June 2002.

An estimation of the expected real interest rate for Hong Kong government securities can be obtained by re-writing the Fisher equation in (5):

$$r_t = i_t - \pi_{t+1}. \quad (3.6)$$

The long-term nominal interest rate,  $i_t$ , can be approximated by yields of 10-year Exchange Fund Notes. On the other hand, expected inflation,  $\pi_{t+1}$ , can be estimated by surveying forecasters, businesses or households for their expectations, or by constructing models of the inflation rate. In this article, we adopt a simple approach to estimate the 10-year inflation expectation in Hong Kong. Seven-year backward-looking moving averages of annualized Hong Kong monthly inflation rates are used as a rough proxy for the expectation of average annual inflation over the following ten years in Hong Kong.

Figure 2 shows the results for the three years leading up to June 2002.<sup>26</sup> The differentials between the nominal rates (upper line) and the expected inflation rates (lower line) represent the rates of real return in Hong Kong. The average real rate of return is 3.87% per annum which is fairly close to the expected figure derived from the theoretical economic relationships<sup>27</sup> (see Table 2).

### 3.4 Recommendations

In Hong Kong the claimant in personal injury litigation should be assumed to invest the lump sum of the award in low-risk investment vehicles. Under the linked exchange rate system we believe that the average real rate of return from US Treasury inflation-indexed securities is an appropriate yardstick for the determination of the discount rate in

<sup>26</sup> We used the same data period as in Table 2.

<sup>27</sup> The beauty of the theoretical economic system discussed in this section is that one can simply observe the prevailing real yield (as in the UK/US). On the other hand, many different approaches could have been taken to determining the prospective real yield on risk-free securities. For examples, Cox *et al.* (1985) devised a family of models of the term structure of real interest rates, and Abuhoff & Malik (1997) employed a regression method. These approaches might have produced slightly different inferences.

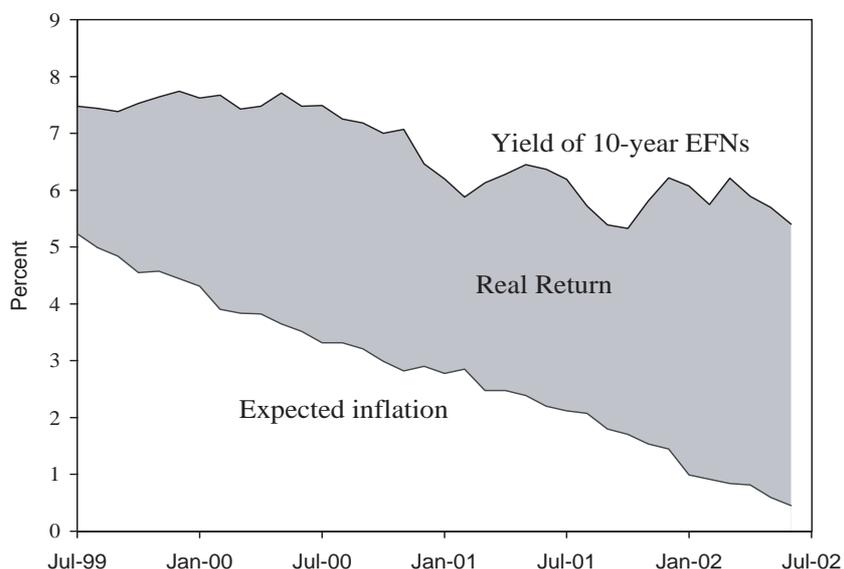


FIG. 2. Estimated real 10-year Hong Kong government security yields (per annum). Yields of Exchange Fund Notes are obtained from the HKMA ([www.info.gov.hk/hkma/eng/statistics/msb/st403-1m.xls](http://www.info.gov.hk/hkma/eng/statistics/msb/st403-1m.xls)), The Hong Kong inflation rates are obtained from the IMF International Financial Statistics Database.

Hong Kong. Alternatively, the Hong Kong Government Exchange Fund Note programme would be another prudent choice of investment for the claimant. We have shown, both theoretically and empirically, the expected real yields from these two types of investments are fairly close. Using actual data are from a three-year period (July 1999 to June 2002), the expected real rates of return are in the range of 3.5–4.0% per annum.<sup>28</sup> Interest income and investment capital gains are not taxable in Hong Kong. However, unlike in the United Kingdom, the Hong Kong inflation rate has been volatile in recent years. In order to compensate for such risk facing by the claimant we recommend setting the current discount rate for Hong Kong personal injury litigation at the 3.5% per annum level.

The economic and population landscapes of Hong Kong are ever-changing. Accordingly, the factors and driving forces shaping the appropriate discount rate in Hong Kong are also changing in a dynamic way. As a result, the discount rate for personal injury and fatal accident cases needs to be carefully revised from time to time. Although making the discount rate fluctuate unpredictably like a share price index is neither realistic nor desirable, it is prudent for the Hong Kong judiciary to take steps to monitor the discount rate, at least on an annual or biennial basis. The Chief Justice of Hong Kong should seriously consider setting up a working party consisting of judges, lawyers, actuaries and economists. The working party would play an active advisory role in reviewing the appropriate discount rate. After consultation, the Chief Justice can keep the members of the legal profession posted on the latest discount rate by means of Practice Directions.

<sup>28</sup> Due to the limited availability of data, the calculations in this paper refer largely to the recent experience in Hong Kong, and not to long-term consideration, e.g. over 200 years in Britain.

### Acknowledgements

The authors wish to acknowledge and express their appreciation for the support of a research grant from the Research Grants Council of the Hong Kong Special Administrative Region (Competitive Earmarked Research Grant Project No HKU 7169/01H). The authors also would like to thank the Editor (Dr M. Redmayne) and referees for their helpful comments and suggestions. Any errors and omissions that remain are our own responsibility.

### REFERENCES

- ABUHOFF, N. & MALIK, H. 1997 Inflation-protected bonds: answering frequently asked questions. *Fixed Income Research*, **January 24**, (J. P. Morgan Securities).
- CHAN, F. W. H. & CHAN, W. S. 2000 Actuarial assessment of damages in personal injury litigation in Hong Kong: Chan Pui Ki (an infant) v. Leung On. *The International Journal of Evidence & Proof*, **3**, 194–203.
- CHAN, W. S. & CHAN, F. W. H. 2003 *Actuarial Tables for use in Personal Injury and Fatal Accident Cases (Hong Kong Mortality 2001)*. Hong Kong: Sweet & Maxwell Asia, (forthcoming).
- COX, J., INGERSOLL, J. & ROSS, S. 1985 A theory of the term structure of interest rates. *Econometrica*, **53**, 385–407.
- DE WILDE, R. 2001 *Facts and Figures: Tables for the Calculation of Damages*. London: Sweet & Maxwell.
- EMMONS, W. R. 2000 The information content of Treasury inflation-indexed securities. *Federal Reserve Bank of St. Louis Review*, **82**, 25–38.
- FISHER, I. 1930 *The Theory of Interest*. New York: Macmillan.
- HOGG, R. 2002 Multipliers—the discount rate. *Journal of Personal Injury Litigation*, **1**, 46–48.