IN THE COURT OF APPEAL OF THE REPUBLIC OF SINGAPORE

[2017] SGCA 29

Civil Appeal No 45 of 2016

Between

QUEK YEN FEI KENNETH SUING BY LITIGATION REPRESENTIVE PANG CHOY CHUN

… *Appellant*

And

YEO CHYE HUAT

… *Respondent*

Civil Appeal No 52 of 2016

Between

YEO CHYE HUAT

… *Appellant*

And

QUEK YEN FEI KENNETH SUING BY LITIGATION REPRESENTIVE PANG CHOY CHUN

… *Respondent*

In the matter of Suit No 695 of 2012

Between

QUEK YEN FEI KENNETH SUING BY LITIGATION REPRESENTIVE PANG CHOY CHUN

… *Plaintiff*

And

YEO CHYE HUAT

… *Defendant*

JUDGMENT

[Damages] — [Measure of damages] — [Personal injuries cases]

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(by his litigation representative Pang Choy Chun)
v
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Sundaresh Menon CJ and Andrew Phang Boon Leong JA
23 January 2017

24 April 2017 Judgment reserved.

Andrew Phang Boon Leong JA (delivering the judgment of the court):

Introduction

1 Civil Appeal No 45 of 2016 ("CA 45") and Civil Appeal No 52 of 2016 ("CA 52") are, respectively, an appeal (by the plaintiff) and a cross-appeal (by the defendant) against the decision of the High Court Judge ("the Judge") in Suit No 695 of 2012 (see *Quek Yen Fei Kenneth v Yeo Chye Huat* [2016] 3 SLR 1106 ("the GD")). The Judge awarded the plaintiff, Quek Yen Fei Kenneth ("Quek"), damages of $452,509.41 in respect of a motor accident for which the defendant, Yeo Chye Huat ("Yeo"), had been found to be 100% liable. The Judge also awarded Quek costs on a standard basis for the trial on liability up until the date of an offer to settle ("OTS") made by Yeo on 15 February 2016, and ordered that each party bear his own costs for the assessment of damages hearing.

Background

2 Quek was born on 17 November 1991, and is 25 years old today. He stopped his studies in March 2007 at 15 years of age, dropping out three months into his repeat year for the Secondary Three Normal (Technical) course. He enlisted for National Service on 4 March 2011.

3 On 11 August 2011, when Quek was still in National Service, he was riding his motorcycle when a taxi driven by Yeo collided into him (the "Accident"). His right foot was severely mangled and his right leg had to be amputated below the knee. His right collarbone was also fractured.

4 Quek brought an action in negligence against Yeo. This action was heard by the Judge, who gave judgment in Quek's favour with damages to be assessed on the basis of 100% liability on the part of Yeo. The reasons for the Judge's decision on liability are set out in *Quek Yen Fei Kenneth v Yeo Chye Huat* [2013] SGHC 132. Yeo's appeal on liability to the Court of Appeal was subsequently withdrawn.

5 The assessment of damages took place also before the Judge, who gave his decision on 3 March 2016. With the consent of the parties, this decision was subsequently revised at a hearing in chambers before the Judge on 27 April 2016 to reflect the updated prices of an item of future medical expenses ("FME"). Interest and costs were also assessed at this hearing. In the interim, however, both Quek and Yeo filed notices of appeal against the 3 March 2016 decision on the assessment of damages (*ie*, before the Judge finalised his awards for FME, interest, and costs).

6 It was agreed before the Judge, and neither party is now disputing, that the two notices of appeal cover all issues in the proceedings, including the

orders made at the chambers hearing on 27 April 2016. Further, neither party is taking issue with the fact that the respective notices of appeal were filed before that chambers hearing.

7 Yeo made two OTSes before the assessment of damages hearing on 16 February 2016, neither of which was accepted by Quek:

(a) on 28 January 2016, Yeo made a first OTS for $480,000.00, which remained open for 14 days (until 11 February 2016); and

(b) on 15 February 2016, Yeo made a second OTS for $550,000.00, which remained open for 14 days (until 29 February 2016) and included a clause that specifically withdrew the first OTS.

8 Before us, the parties proceeded on the basis that Quek's claims for FME, loss of future earnings ("LFE"), and loss of earning capacity ("LEC"), relate only to the period on and after 3 March 2016, which was the date the Judge gave his decision on the assessment of damages. At that time, Quek was 24 years old. Accordingly, we assessed FME, LFE, and LEC only for the period on and after 3 March 2016.

9 The Judge awarded Quek a total of **$452,509.41** in damages, which comprised general damages, special damages, and interest as follows (see the GD at [123]):

General Damages		
Pain and suffering		$102,000.00
Below-knee amputation	$80,000.00	
Right collarbone fracture	$15,000.00	
Multiple scarring	$7,000.00	
FME		$106,737.87
K3 prostheses (@ $3,493.30/year)	$62,879.47	
Medical consultation (@ $92.00/year)	$1,656.00	
Aqua limb (@ $710/year)	$12,780.00	
Additional K4 prosthesis	$7,276.00	
One back-up K3 prosthesis	$6,146.40	
Neuroma surgery (provisional)	$5,000.00	
Collarbone surgery (provisional)	$11,000.00	
Future transport expenses		$1,000.00
LEC (@ $750/month over 18 years)		$162,000.00
Total General Damages		**$371,737.87**
Special Damages		
Renovation fee		$10,670.40
Medical expenses		$33,052.87
Transport expenses		$3,000.00
Loss adjuster fees		$279.00
Pre-trial loss of earnings		$14,500.00
Total Special Damages		**$61,502.27**
Interest		
General Damages (pain and suffering) from writ to interim payment of $50,000.00		$5,332.33
General Damages (pain and suffering) from interim payment of $50,000.00 to judgment		$7,077.07
Special Damages (excluding pre-trial loss of earnings)		$5,728.12
Special Damages (pre-trial loss of earnings only)		$1,131.75
Total Interest		**$19,269.27**
Total Damages		**$452,509.41**

10 On the issue of costs, the Judge also ordered Yeo to pay Quek the costs of the trial on liability up until 15 February 2016 (the date of the second OTS) on a standard basis, while the parties were to bear their own costs of the assessment of damages hearing (see the GD at [130]).

Issues before this court

11 CA 45 and CA 52 concern the Judge's decision on damages and on costs, and do not involve issues of liability for causing the Accident. The issues in dispute can be categorised as follows:

(a) whether, as Yeo argues in CA 52, this court ought to reduce the Judge's award of $80,000.00 in general damages for pain and suffering for the below-knee amputation;

(b) whether this court ought to vary the Judge's award of $106,737.87 in general damages for FME:

(i) as Quek argues in CA 45, to:

(A) increase the multiplier for FME from 18 years to 25 years, and, accordingly, the awards for the use and replacement of a K3 prosthesis, the use and replacement of the aqua limb, and the medical consultations;

(B) award the costs of the use and replacement of a K4 prosthesis with a multiplier of 18 years;

(C) provide for price inflation at a rate of 3% to 5% per annum in the award of FME in respect of the maintenance and replacement of the K3 and K4 prostheses;

(D) award the costs of the Neuroma and collarbone surgeries as a lump sum rather than as provisional damages;

(ii) as Yeo argues in CA 52, to:

(A) reduce the Judge's award in respect of the use and maintenance of a K3 prosthesis on the ground that Quek would need only a K2 prosthesis after 60 years of age;

(B) set aside the Judge's award in respect of an aqua limb;

(C) set aside the Judge's award in respect of the K4 prosthesis purchased by Quek on the ground that an award for the same amount has been made as part of special damages;

(c) whether, as Quek argues in CA 45, this court ought to make an award of damages for LFE, and, if so, whether to vary the Judge's award of $162,000.00 of general damages for LEC; and

(d) whether, as Yeo argues in CA 52, this court ought to reduce the Judge's award of $162,000.00 of general damages for LEC, which was based on a sum of $750.00 per month for 18 years.

12 In addition, Yeo applies in CA 52 to vary the Judge's order on costs for Yeo to pay Quek's costs on a standard basis only up to the date of Yeo's first OTS on 28 January 2016, rather than up until the date of Yeo's second OTS on 15 February 2016.

Decision below

Pain and suffering

13 The Judge awarded Quek $80,000.00 for the pain and suffering from the below-knee amputation of his right leg. The *Guidelines for the Assessment of General Damages in Personal Injury Cases* (Academy Publishing, 2010) ("Guidelines") provide a range of $40,000.00 to $70,000.00 for the pain and suffering from a below-knee amputation of one leg. The Judge gave Quek a slight uplift of $10,000.00 for the pain and suffering from his losing of a leg at the relatively young age of 20 years, his undergoing surgery to attempt to salvage the leg, and his continued experiencing of phantom limb pain and pain from a neuroma at the amputation stump even four years after the Accident (see the GD at [14]–[16]).

FME

Multiplier

14 The Judge applied a multiplier of 18 years for FME, based on Quek's age of 24 years at the date of the trial. He did not grant the 24-year multiplier sought by Quek because it was speculative to determine the extent to which medical advancements would increase the life expectancy of the average male during Quek's lifetime so as to justify a 24-year multiplier (see the GD at [30]–[32]).

Multiplicand

15 The Judge found that prostheses ranging from levels K0 to K4 exist and are designed to support increasing intensities of activity. A K4 prosthesis was equipped with a running blade and facilitated a level of ambulation that

allowed for the high impact activities (*eg*, sprinting) typical of an athlete. A K3 prosthesis supported a lower intensity of activity that fulfilled the demands of a typical community ambulator (*eg*, light jogging and running for the bus) and allowed a user to traverse most environmental barriers as well as engage in exercise. A K2 prosthesis, by contrast, did not admit of such activities, and enabled only such low intensity activities as traversing curbs, stairs, and uneven surfaces (see the GD at [35]).

16 The Judge found Quek to be an active young man, whose day-to-day needs included light jogging and running for the bus. He thus awarded Quek a lump sum for the costs of the use and replacement of a K3 prosthesis equivalent to the receipt of $3,585.30 per annum (comprising $3,493.30 for the K3 prosthesis itself and $92.00 for the medical consultations needed to fit that prosthesis) for the remainder of Quek's life. Even if the intensity of Quek's activities would likely decline with age, it would, in the Judge's view, be unduly onerous for Quek to suddenly have to adapt to the restricted range of activities allowed by a K2 prosthesis having spent the majority of his life with a K3 prosthesis (see the GD at [39], [42] and [69]).

17 The Judge did not award Quek the costs of the use and replacement of a K4 prosthesis. Although Quek had participated in sprinting trials, sprinting was merely a temporary recreational interest of his. Further, awarding Quek the costs of a K4 prosthesis on top of the costs of a K3 prosthesis would overcompensate him. Nevertheless, the Judge awarded Quek the costs of the single K4 prosthesis ($7.276.00) that Quek had purchased after the Accident to explore his options while adjusting to his post-amputation situation (see the GD at [40] and [41]).

18 The Judge awarded Quek the costs of the use of an aqua limb, at a rate of $710.00 per annum. Unlike a regular K3 prosthesis, an aqua limb was waterproof. It would therefore allow Quek to shower standing up, instead of sitting or standing on only one leg. Quek would therefore be able to use bathrooms that had not been modified to suit his needs and engage in activities on the beach, where contact with water was inevitable (see the GD at [61]).

19 The Judge awarded Quek provisional damages of $5,000.00 for the surgical excision of his neuroma and $11,000.00 for the surgical treatment of his right collarbone – payable only if Quek were to undergo the surgeries and tender the bill within three years. Quek's orthopaedic experts had testified that both the neuroma and the right collarbone injury could be left untreated, but that the ultimate decision of whether to undergo surgery should be left to Quek, if the pain caused by the neuroma hindered the normal functioning of his limb and affected his quality of life (see the GD at [65] and [66]).

LFE/LEC

Multiplier

20 The Judge applied a multiplier of 18 years to Quek's claims for both LFE and LEC. He based his award on the Singapore High Court decision of *Teo Seng Kiat v Goh Hwa Teck* [2003] 1 SLR(R) 333 ("*Teo Seng Kiat*"), where an 18-year multiplier was applied to a 28-year-old male claimant, and in which G P Selvam J opined (at [14]) that a multiplier of 18 years "accorded with the current trend in relation to a healthy young man" (see the GD at [78]).

Multiplicand

21 The Judge rejected Quek's claim for LFE, but awarded Quek $162,000.00 for LEC.

(1) LFE

22 The Judge found that there was insufficient evidence to support a claim for LFE. Quek had dropped out of school in Secondary Three and had a sketchy employment history ever since. The only clear (and available) evidence was that he had served National Service and had a keen interest in motorcycles. His career path was uncertain. It was thus impossible to make an appropriate estimate of the income Quek would have earned but for the Accident. Yet, it was also inappropriate to peg Quek's future earnings to the career model of the civil service. Quek had been unable to secure a stable full-time job and shuttled between part-time jobs. He was also unable to show any particular aptitude or interest in any trade (see the GD at [83] and [85]).

23 The Judge, in fact, found Quek's employment and remuneration history to be as follows (see the GD at [86]):

> (a) From early-2008, Quek worked at TC Homeplus Pte Ltd ("TC Homeplus") as a sales promoter of bed linen. However, he was dismissed due to his tardiness in reporting for work. Although Quek claimed to have earned a monthly income of $1,200.00 to $1,400.00 at TC Homeplus, he could not produce the relevant CPF income documents to support his claim.
>
> (b) After his dismissal by TC Homeplus up until September 2010, Quek worked at Craftmark (Singapore) Pte Ltd ("Craftmark"), also as a sales promoter. He earned a monthly income of between $309.11 and $1,190.34.
>
> (c) From September 2010 up until March 2011, when Quek enlisted for National Service, he worked as a part-time assistant

delivery driver. However, he was unable to provide an estimate of his earnings from this job as they had been paid to him in cash.

24 The Judge rejected Quek's evidence that he could have, like his father, earned $3,000.00 to $5,000.00 per month as a tipper-truck driver. Quek had not called his father as a witness, and this evidence was therefore hearsay. In any event, Quek had not shown any inclination for such work at all (see the GD at [82]).

(2) LEC

25 The Judge awarded Quek $162,000.00 for LEC, based on a multiplicand of $750.00 per month over an 18-year multiplier.

26 The Judge found that the injuries caused by the Accident had reduced Quek's earning capacity. Quek was unable to stand or walk for long hours, and could no longer carry loads of more than 20kg. Even if he were to be employed, he was likely to receive a lower income than an able-bodied person doing the same job (see the GD at [89]).

27 The Judge noted, however, that Quek had previously fractured both his wrists in a prior unrelated accident fewer than two months before the Accident (with Yeo). This injury, which was unrelated to Yeo's negligence, had already diminished Quek's ability to perform manual tasks such as lifting and therefore his earning capacity. The LEC multiplicand of $750.00 per month compensated Quek for the further disadvantage caused by the Accident to his subsequent employability and income (see the GD at [90] and [91]).

Quek's Case

FME

28 Quek seeks a multiplier of 25 years for FME "based on a conservative estimate of [Quek's] expected life span of 74 years". This would leave him with another 50 years of natural life. He submits that an FME multiplier is roughly half of a claimant's expected remaining life expectancy.

LFE/LEC

Multiplier

29 Quek seeks a multiplier of 20 years for each of LFE and LEC. He argues that he had a remaining working life of at least 43 years as at the time of the assessment of damages, when he was 24 years of age, because the retirement age will soon be raised from 65 to 67 years. Indeed, given his low level of education, he argues that he would likely have worked past 67 years. He submits that where a claimant has a remaining working life of 35 years or more, an LFE multiplier of just under half of the remaining working life is applied.

30 Quek distinguishes *Teo Seng Kiat* (see above at [20]) because it involved a 28-year-old claimant, and there were no reasons or authority given for the finding that an 18-year multiplier represented the "current trend". Further, he argues that *Teo Seng Kiat* was decided in 2000, and that the trend then is not relevant today. He then submits that a 20-year multiplier should be applied to a claimant between 22 and 23 years of age.

Multiplicand

31 Quek seeks an LFE multiplicand of $2,000.00 per month. He argues that a claim for LFE may be sustained even if his particular career path cannot be determined, and may be derived from the median salary of persons of equivalent education set out in the Ministry of Manpower tables on median gross monthly income from full-time employment ("the MoM Tables"). Pursuant to those tables, a 24-year-old man with Quek's educational qualifications would earn an average of $2,978.22 per month across his remaining working life.

32 Quek disputes the Judge's finding that he had flitted from job to job. He contends that he had been a sales promoter for four years before he enlisted into National Service. Only after the Accident was he unable to keep a stable job. In addition, he earned $1,400.00 working at TC Homeplus at the age of 16 years – an 83% increase from the average sum of $761.00 earned by 15 to 19 year olds, according to the MoM Tables. He argues that in deriving his multiplicand for LFE, an uplift of at least 50% should be applied to the average median lifetime salary of $2,978.22 per month, to give a gross monthly income figure of $4,467.33 per month. This was within the range of his likely earnings but for the Accident, had he become a tipper-truck driver like his father.

33 Quek seeks at least $100,000.00 for LEC in addition to an award of LFE. In the event that no award of LFE is made, he contends that the LEC multiplicand should be more than $750 per month because his prior wrist injury, on account of which the Judge reduced the LEC multiplicand to $750 per month, retarded the range of motion of his wrist only insignificantly.

Yeo's Case

Pain and suffering

34 Yeo argues that the award of $80,000.00 for pain and suffering from the below-knee amputation should be reduced. The Judge, he argues, placed excessive weight on the phantom limb pain experienced by Quek and the unsuccessful surgical attempt to salvage his leg. Phantom limb pain is common after amputations, is already noted in the awards for amputations, and should not be factored in again "to make an increased award". Further, the pain and suffering experienced by Quek was less "severe" than that in the Singapore High Court decision of *Pang Teck Kong v Chew Eng Hwa* [1992] SGHC 31 ("*Pang Teck Kong*"), where Warren Khoo J awarded only $50,000.00 to a 22-year-old claimant whose right leg was amputated below the knee after it was run over *twice* by a lorry; the second time when the driver of the lorry reversed the lorry over him when he was on the ground. The claimant had also been admitted to hospital for 32 days.

FME

35 Yeo argues that the multiplier of 18 years for FME applied by the Judge should be upheld. Quek is a smoker and was 24 years old at the date of the trial. A multiplier of 18 years is thus fair and appropriate.

LFE/LEC

Multiplier

36 Yeo submits that the retirement age is usually adhered to for workers like Quek, who would have engaged in physical work. Such workers rarely work beyond 60 years of age. Even if they do, their pay would be reduced.

Multiplicand

37 Yeo submits that there are insufficient objective facts to justify an award of LFE. The objective evidence in the form of Quek's income statements fails to corroborate his account of his pre-Accident remuneration. Further, Quek with his K3 prosthesis can perform his pre-Accident vocation of a sales promoter, save that he can no longer lift weights over 20kg. Quek has been able to secure employment with Unique Motorsports Pte Ltd ("Unique Motorsports") at a salary of between $1,400.00 and $1,450.00 per month, save that he "left Unique Motorsports not because he was not able to perform the job but because he was late for work consistently even though he was required to report for work only at 10.00 a.m". The real reason keeping Quek out of work is his attitude and not his disability.

38 Yeo adds that Quek can now earn an income higher than his pre-Accident income, and has suffered no loss to justify a claim for LFE. In any event, he never intended to study further after dropping out of school in Secondary Three. His highest educational qualification is thus that of a lower secondary education. At best, he would have achieved only the median gross monthly income of a worker with lower secondary qualification, *ie*, $2,100.00 per month based on the MoM Tables. With future increments and bonuses, Quek's current earning capacity of between $1,400.00 and $1,450.00 per month (excluding employer's CPF) could well exceed this sum of $2,100.00 per month (which includes employer's CPF). Accordingly, there is no loss of income to justify LFE.

39 Yeo argues that the award of LEC to Quek should be reduced to $500.00 per month, or approximately $110,000.00 over the 18-year multiplier.

40 Yeo argues that Quek's pre-Accident earning capacity of less than $1,000.00 per month is much lower than his post-Accident earning capacity of $1,400.00 per month with Unique Motorsports. With the K3 prosthesis, Quek can work in the same capacity as he did before the Accident, save that he can no longer carry objects that weigh over 20kg. Moreover, Quek now owns two motorcycles and has been able to ride them safely with his prosthetic leg. However, he "chose not to work for reasons only known to him". There was thus no loss of earning capacity attributable to the Accident. Nevertheless, on the authority of *Teo Seng Kiat*, he accepts that $500.00 per month may be awarded to Quek for LEC.

Our decision

Pain and suffering

41 We agree with the reasons given by the Judge for the $10,000.00 uplift from the upper limit of the $40,000.00 to $70,000.00 range in the Guidelines for the pain and suffering from a below-knee amputation (above at [13]). The Judge had expressly considered the award of $50,000.00 in *Pang Teck Kong* (see the GD at [12]). Moreover, *Pang Teck Kong* was decided in 1992, and the award made to Quek had to take into account the changes in purchasing power since then. Accordingly, we uphold the Judge's award of $80,000.00 for the pain and suffering from the below-knee amputation.

Multiplier-Multiplicand Approach

42 We pause to review the multiplier-multiplicand approach that forms the basis of the assessments of damages for FME and LFE/LEC for non-fatal personal injuries in Singapore. The *multiplicand* represents the quantum of loss, whether in terms of an incurrence of medical expenses (for FME) or a

reduction of earnings (for LFE/LEC), that the claimant is expected to suffer at periodic intervals in the future. The *multiplier*, in turn, is the mathematical tool used to calculate the lump-sum present value of the stream of future periodic losses across the remaining life expectancy and the remaining working life (collectively, "period of future loss") of the claimant.

43 Three factual premises undergird the multiplier (see *Kemp & Kemp: The Quantum of Damages* (William Norris QC gen ed) (Sweet & Maxwell, Looseleaf Ed, 2009, Release 137 (October 2015)) ("*Kemp & Kemp*") at paras 10-009.1–10-009.2):

> (a) first, the length of the expected period of future loss, from the date of the assessment of damages to the date of either death (for a lifetime multiplier) or retirement (for an earnings multiplier);
>
> (b) second, the receipt of compensation for the future losses by the claimant as an immediate lump sum, which can almost invariably be invested at a rate over and above that of inflation to make a profit, and the probability that mortality risks (and other vicissitudes of life) would curtail his expected period of future loss; and
>
> (c) third, the continual drawing-down and spending of the invested lump sum, such that by the end of the expected period of future loss the claimant will have nothing left.

44 In effect, the court awards the claimant a lump sum in damages that represents the present value of an *annuity* offering a *rate of return (net of contingencies)* (*ie*, the discount rate) *that the claimant is assumed to be able to achieve by investing the lump-sum award*. This annuity will pay the claimant the amount of the multiplicand at each periodic interval over the expected

period of future loss, and at the conclusion of which the annuity terminates (see the House of Lords decision of *Mallett v McMonagle, a minor by Hugh Joseph McMonagle, his father and guardian ad litem, and Another* [1970] AC 166 ("*Mallett v McMonagle*") at 175).

45 Admittedly, it is never an easy task to assess the expected period of future loss in order to determine a multiplier, whether for FME or for LFE/LEC. As so aptly observed by the Privy Council (in an appeal from South Australia) in *Paul and Another v Rendell* (1981) 34 ALR 569 ("*Paul v Rendell*") at 571, such an assessment "involves a double exercise in the art of prophesying not only what the future holds for the injured plaintiff but also what the future would have held for him if he had not been injured".

Development of law on multipliers in Singapore

46 The first reported case in Singapore that applied the multiplier-multiplicand approach was the decision of this court in *Attorney-General v Rada Baskaran* [1971–1973] SLR(R) 376. At that time, as was the practice in the UK, the courts in Singapore adopted a "rough and ready" approach to the assessment of multipliers (see *Kemp & Kemp* at para 10-009.3). The primary concern was ensuring consistency with the multipliers awarded to claimants of a similar age in previous cases, although adjustments were occasionally made on account of uncertainties unique to the claimants in question.

47 In *Lai Wee Lian v Singapore Bus Service (1978) Ltd* [1983–1984] SLR(R) 388 ("*Lai Wee Lian*"), the Privy Council (in an appeal from this court) observed at [20] that the starting point for calculating a multiplier was the period of time in the future that the claimant "can be expected to live but, in consequence of the accident, not to earn". This figure was then discounted to

reflect, first, the inevitable contingencies and uncertainties of human life and working capacity, and second, the fact that the award of damages would be paid as a lump sum.

48 The Board noted that the practice in England was to apply this discounted figure as a direct multiplier, whereas a common practice in Singapore at that time was to calculate the relevant damages by reference to a set of present value (or financial) tables that had been prepared by M/s Murphy and Dunbar, Solicitors ("the M&D Tables"). These tables were "calculated upon the assumption that the capital sum (*ie*, the sum awarded as damages) will be invested and will earn interest at 5% per annum" (see *Lai Wee Lian* at [20]–[21]).

49 The Board observed that it was not improper to use the M&D Tables in assessing damages, and that the M&D Tables "enable the loss to be calculated more accurately than is possible by the direct application of a multiplier". However, it cautioned against erroneous double-discounting: reducing the award for contingencies and accelerated receipt *in addition to* the discounting implicit in an application of a discounted figure as a direct multiplier (as was the practice in England). The Board concluded that "if confusion is to be avoided, it seems desirable that a uniform practice should be followed by all courts" (see *Lai Wee Lian* at [25]–[27]). It then discounted the expected remaining working years of the claimant there "in respect both of future contingencies and advance payment", *ie*, an application of a direct multiplier without reference to the M&D Tables (see *Lai Wee Lian* at [29]). This approach appears to have been followed ever since, despite a comment by Goh Phai Cheng JC in the Singapore High Court decision of *Toon Chee Meng Eddie v Yeap Chin Hon* [1993] 1 SLR(R) 407 ("*Eddie Toon*") at [56] that there was no reason why a set of actuarial tables adduced by a party in the English

Court of Appeal decision of *Croke and Another v Wiseman and Another* [1982] 1 WLR 71 had no application in Singapore.

50 In *Poh Huat Heng Corp Pte Ltd and others v Hafizul Islam Kofil Uddin* [2012] 3 SLR 1003 ("*Hafizul*"), this court noted at [48] that there are at least four different ways of calculating a multiplier:

(a) First, fixing the multiplier by looking at the multipliers awarded in comparable cases ("the Precedent Approach"),

(b) Second, applying a pure arithmetical discount to the expected period of future loss on account of accelerated receipt and other vicissitudes of life ("the Arithmetic Approach").

(c) Third, determining the multiplier through the use of actuarial tables, as was the practice in the UK following the House of Lords decision of *Wells v Wells* [1999] 1 AC 345 and the publication of actuarial tables by the UK Government Actuary's Department. The multipliers in those tables were calculated on the basis that a lump-sum award would be invested at a rate of return of 2.5% per annum net of tax, and in light of the expected mortality rates of the average British person (but not risks other than mortality, although the tables offered a methodology to reduce the multiplier on account of such other contingencies) (see *Actuarial Tables with explanatory notes for use in Personal Injury and Fatal Accident Cases* (7th Ed, 2011) ("the Ogden Tables 2011") at Section A paras 4–9).

(d) Fourth, applying a fixed formula, as was done in Malaysia pursuant to s 28A of the Civil Law Act 1956 (Act 67) (Malaysia).

51 This court observed in *Hafizul* that, absent authoritative actuarial tables like the Ogden Tables 2011 in Singapore, both the Precedent Approach and the Arithmetic Approach were relevant when calculating a multiplier. Thereafter, adjustments to the multiplier thereby derived could be made on account of, *inter alia*, such personal attributes of the claimant as gender, educational attainment, employment status, and pre-existing illness or disability, as well as the structural features of the claimant's industry and the wider economy (see *Hafizul* at [54]–[56]).

52 This court added that ascertaining the age of the claimant was a necessary but not a sufficient condition in determining a multiplier. More important was the likely number of "remaining working years" (for LFE/LEC) or remaining living years (for lifelong FME) that the claimant would have enjoyed but for the accident. These figures would be determined predominantly (but not exclusively) by reference, respectively, to the statutory retirement age and average life expectancy in Singapore (see *Hafizul* at [60] and [76]). We pause here to note that in this regard, the M&D Tables are not actuarial tables but present value (or financial) tables, which take account of only accelerated receipt but not mortality risks (see Wai-Sum Chan and Felix W H Chan, "*Lai Wee Lian* Revisited – Should Actuarial Tables be Used for the Assessment of Damages in Personal Injury Litigation in Singapore?: *Wells v Wells*" [2000] Sing JLS 364 at 370).

53 In *Lai Wai Keong Eugene v Loo Wei Yen* [2014] 3 SLR 702 ("*Eugene Lai*") at [20]–[22], this court rejected a submission that *Hafizul* essentially endorsed dispensing with the Precedent Approach in favour of the Arithmetic Approach, and emphasised that neither approach could invariably be preferred over the other. In *Hafizul*, the Precedent Approach was eschewed only because the claimant was a Bangladeshi national who would eventually be returning to

(and investing his lump-sum award in) Bangladesh, and because no information on real interest rates in Bangladesh was available. Further, the claimant's job as a foreign construction worker was exposed to unique vagaries that did not usually attend other forms of employment. Simply applying the multipliers used in past cases involving local claimants would have been unsatisfactory.

54 This court added that where possible, *both* the Precedent Approach *and* the Arithmetic Approach should be used, albeit independently. The multiplier derived under the Arithmetic Approach should be "cross-checked with the multipliers used in past cases so as to achieve consistency with cases involving similarly-situated plaintiffs". In other words, "in determining the various discounts to be applied under the [Arithmetic] [A]pproach, *a court should not stray too far from the implicit discounts embedded in the multipliers used in comparable cases*" [emphasis added] (see *Eugene Lai* at [20] and [22]).

55 This court acknowledged that the multipliers awarded in Singapore had traditionally been based on the assumption that the lump-sum award could be invested to achieve real rates of return of between 4% and 5% per annum, and that the prevailing rates of return on fixed deposits were below 4% per annum and had remained so for 15 years. Nevertheless, this court held that it was not for it to effect a radical and sweeping revision of the discount rate for accelerated receipt, even if a court could adopt a lower or higher discount rate where appropriate on the facts of a particular case (see *Eugene Lai* at [28] and [32]–[38]):

> (a) First, it was not reasonable for a claimant to invest his entire lump-sum award in fixed deposits, particularly where the award was meant to provide for a long period of future loss. A large portion of the

award would not be called upon for many years, and that portion could be invested in equities or other asset classes to achieve a higher return (as compared to fixed deposits) meanwhile.

(b) Second, there was no guarantee that the prevailing low rates of return would persist.

(c) Third, although there was scope for reform in the law on multiplier awards for personal injury, the courts were not in a position to undertake that reform. Any drastic change to the discount rate for accelerated receipt could only be undertaken after a careful study, with input from experts and the various stakeholders involved. This was a matter that fell within the institutional competence of the Legislature.

56 For completeness, there remains an option for a court to order provisional damages in lieu of an award of general damages, pursuant to Paragraph 16 of the First Schedule to the Supreme Court of Judicature Act (Cap 322, 2007 Rev Ed). Such an order would allow the court more time to assess more accurately a loss that the claimant may potentially suffer in the future. This was done by this court in *Koh Chai Kwang v Teo Ai Ling (by her next friend, Chua Wee Bee)* [2011] 3 SLR 610 ("*Teo Ai Ling*").

Our observations

57 There are two primary reasons why a stream of future losses is to be discounted on account of its immediate payment as a lump-sum award of damages, *viz*: (a) accelerated receipt; and (b) contingencies including mortality and the effect of other personal and structural considerations on the remaining life expectancy (for lifelong FME) and remaining working life (for LFE/LEC).

58 We agree with and endorse the observations in *Hafizul* (see above at [51]) on the methodology by which account may be taken of contingencies such as mortality and other vicissitudes of life in the calculation of a multiplier.

59 We also agree with the observations in *Eugene Lai* (see above at [55]) that radical and sweeping revisions of the discount rate on account of accelerated receipt lie within the province of Parliament and not the courts. Nevertheless, nothing precludes a court from adopting a lower or higher discount rate where this is appropriate ***on the facts of a particular case***. Where a case is not truly comparable to the precedents, or where there is other good reason to depart from them, including the matter of expert or actuarial evidence which we touch on at [62] below, the court can and should depart from past multiplier awards and the discount rates implicit in them. Indeed, as this court observed in *Hafizul* at [54]:

> … a blind adherence to the multipliers in previous cases is not desirable. The court should consider in each case whether the previous cases are truly comparable, and should not hesitate to depart from the multipliers used in previous cases if the circumstances call for it.

60 More specifically, in applying the Precedent Approach, we would caution against not only blind adherence to the multipliers awarded in previous cases, but also against blind adherence to the *ratios* (or, conversely, the discount amounts) between the multipliers and the expected period of future loss (as Quek urges us to do in the context of LFE/LEC (see above at [29])). Just as the Precedent Approach provides as a useful cross-check of a multiplier derived under the Arithmetic Approach (see above at [54]), the Arithmetic Approach can *equally* be a useful cross-check of a multiplier derived under the Precedent Approach. But more than simply applying a pure

arithmetical discount to the expected period of future loss on account of accelerated receipt and other contingencies, there is merit in using the arithmetical tool of the annualised discount *rate* in determining a multiplier.

61 As an annualised figure, the discount rate allows for more meaningful and accurate comparisons between the awards of multipliers in different cases. It is also of immediate relevance to the rates of return on investments, and, accordingly, the effect of accelerated receipt. Finally, the effect of contingencies can be reflected through direct arithmetical adjustment of the discount rate.

62 The difficulties in the calculation of discount rates may be mitigated through the use of financial, and, in particular, actuarial tables as a ***proxy*** for having to calculate direct discount rates (net of contingencies). Accordingly, we echo the observations that we made recently in the context of dependency claims that it would be helpful for parties, in addition to canvassing the multipliers set out in the precedents, to assist the court *further* by providing relevant financial or actuarial data to justify the discounts which they seek. This would facilitate the principled yet pragmatic development of the law, while ensuring consistency with past cases involving similarly-situated claimants (see *Zhu Xiu Chun (alias Myint Myint Kyi) v Rockwills Trustee Ltd (administrators of the estate of and on behalf of the dependants of Heng Ang Tee Franklin, deceased) and other appeals* [2016] 5 SLR 412 ("*Rockwills Trustees*") at [85]–[86]). In fact, the use of such financial or actuarial tables in the assessment of damages for personal injuries is not foreign to Singapore. As early as in the 1980s, legal practitioners were relying on the M&D Tables, and in 1993, the High Court in *Eddie Toon* expressly suggested that reliance could be placed on actuarial tables (see above at [48]–[49]). In consequence, there

remains little room for the formulaic or mechanistic approaches of the past in calculating a multiplier. Such approaches include the following:

(a) approximately halving the expected period of future loss (as was observed by the Singapore High Court in *AOD (a minor suing by his litigation representative) v AOE* [2016] 1 SLR 217 ("*AOD*") at [38]); and

(b) applying a principle that "that the multiplier for future medical treatment was usually two years longer than the multiplier for loss of future earnings [or LEC]" (as was contended by counsel for the plaintiff (but which was rejected) in the Singapore High Court decision of *Ho Yiu v Lim Peng Seng* [2004] 4 SLR(R) 675 at [34]).

63 In our view, reason and logic suggest that the longer the expected period of future loss, the greater the discount *amount* should be. This reflects the increased *compounding* of the effect of accelerated receipt, inflation, contingencies, and other vicissitudes of life where the period of future loss is longer (see *Rockwills Trustees* at [87]).

64 We are also of the view that there is merit in adopting higher discount *rates* in cases of longer expected periods of future loss, and that there is (correspondingly) nothing wrong in principle with having negative discount rates. The discount rate is the rate of return (net of contingencies) that the claimant is expected to realise on his investment of his lump-sum award across the period of future loss. A claimant who receives a lump-sum award in respect of a long expected period of future loss is well-placed to ride out the short-term volatility of higher-yield investments and to avail himself of increases in interest rates in the future. Conversely, a low or even zero discount rate may justifiably be adopted if the remaining working life or

remaining life expectancy of the claimant is very short, such that there is less scope for investment in riskier assets or for drastic changes in the prevailing interest rates (see *Eugene Lai* at [34] and [38]). This was, in fact, the approach adopted in *Toh Wai Sie and another v Ranjendran s/o G Selamuthu* [2012] SGHC 33 ("*Toh Wai Sie*") at [37], and more clearly by the Hong Kong Court of First Instance in *Chan Pak Ting v Chan Chi Kuen (No 2)* [2013] 2 HKLRD 1 ("*Chan Pak Ting*"), where Bharwaney J formulated a tiered framework of discount rates that varied with the length of the expected period of future loss. Each tier reflected the investment choices of a different class of claimant-investors, as driven by its specific needs and goals. The discount rates adopted were as follows:

(a) 2.5% per annum for periods of future loss exceeding 10 years;

(b) 1.0% per annum for periods of future loss from 5 to 10 years; and

(c) -0.5% per annum for periods of future loss of less than 5 years, on the authority of the decision of the Privy Council in *Simon v Helmot* [2012] Med LR 394 (in an appeal from Guernsey) because the rates of inflation exceeded the rates of return on investments suitable for claimant-investors with such short investment horizons.

65 Nevertheless, any development of the law that involves departing from the traditional discount rates, which are based on rates of return of between 4 to 5% per annum, should be undertaken only ***incrementally***, and by reference to or analogy with past cases. Even legislators and administrators with their institutional resources struggle to assess a fair rate of return that claimants should be expected to realise on their lump-sum awards, as witnessed in the recent call in the UK to *increase* the discount rate, which had been reduced to

2.5% per annum pursuant to s 1 of the Damages Act 1996 (c 48) (UK). There is thus a real risk that courts, in attempting to do justice to claimants by compensating for the low rates of return on fixed deposits at present, unwittingly produce injustice by over-compensating claimants at the expense of defendants and those who fund them (see *Damages Act 1996: The Discount Rate* (A Joint Consultation produced by the Ministry of Justice, the Scottish Government and the Department of Justice, Northern Ireland; Consultation Paper CP 3/2013, 2013) at p 3):

> At present the discount rate is set by reference to the expected rates of return on certain types of safe investments. However, there is evidence that recipients of these lump sums do not invest in the cautious way that is envisaged by the guidelines. Instead, the initial evidence indicates, they seem to invest in mixed portfolios, including higher risk investments. This may be the result of a number of factors, but it might suggest that the current legal parameters for setting the rate may produce a rate that is too low. This would result in over-compensation for claimants and extra cost for defendants and those who fund them. …

66 In this regard, we note that recently, the Hong Kong Court of First Instance held in *Chan Pak Ting* that a discount rate of 4.5% per annum was inappropriate given the economic indicators that suggested that the exceptionally low interest rate regime would likely persist. This figure of 4.5% per annum was based on the assumed rate of return set out by the House of Lords in *Cookson (Widow and Administratrix of the Estate of Frank Cookson, decd) v Knowles* [1979] 1 AC 556 ("*Cookson v Knowles*"). Bharwaney J observed as follows (at [14]–[16]):

> 14. "Quantitative Easing" has now become a recognised economic concept. The experts have explained the operation of quantitative easing policies adopted by the US and UK Governments and other Governments in these terms:
>
> > Usually, central banks try to raise the amount of lending and activity in the economy indirectly, by cutting interest rates. UK interest rates are currently at

> 0.5% — the lowest level in the Bank of England's history.
>
> Lower interest rates encourage people to spend, not save. But when interest rates can go no lower, a central bank's only option is to pump money into the economy directly.
>
> The way the central bank does this is by buying assets — usually financial assets such as government and corporate bonds — using money it has simply created out of thin air.

The third round of quantitative easing was announced by the US Federal Reserve Bank on 13 September 2012 and is likely to put pressure on the UK to follow suit. In the US, the effects of quantitative easing on the US economy have been the depreciation of the US dollar, sharp rises in commodity prices, rises in the equity market, but a sharp drop in US Treasury bond yields.

15. The experts have also referred to the "double whammy" effect in Hong Kong caused by the economic impact of imported inflation from China without a free hand in fixing a higher interest rate in Hong Kong because of the currency peg of the HK dollar to the US dollar. The Renminbi has been rising against the HK dollar for the past ten years. Strong internal demand within Mainland China has caused an increase in the price of food and other products in China. A significant amount of food is imported to Hong Kong from China daily. The rise of the Renminbi against the HK dollar has had a marked impact on consumer price inflation in Hong Kong recently. The peg is here to stay for a long, long time and the double whammy effect will continue in Hong Kong.

16. The Eurozone sovereign debt crisis and its potential impact on the Hong Kong economy is explained in an extract from the 2011 Economic Background and 2012 Prospects, published in February 2012 by the Financial Secretary's Office:

> The Eurozone debt crisis, which broke out in early 2010 upon mounting concern over the fiscal sustainability of several peripheral Eurozone economies, has re-intensified distinctly since the second quarter of 2011 and emerged as the biggest threat to the global economy and financial market stability. …
>
> Being a small and highly externally-oriented economy, the Hong Kong economy will inevitably be affected by the vicissitudes on the external front through both the

> trade and financial channels. The intensification of the Eurozone sovereign debt crisis since mid-2011 has … also led to a region-wide deceleration in exports and production activities in Asia … . Against this background, the external environment has turned increasingly difficult and is expected to remain highly uncertain in the period ahead.

67 In our view, there is merit in the approach adopted in *Chan Pak Ting* which centred on a macroeconomic analysis of the discount rate. However, on the facts of this case, particularly the absence of evidence and submissions on the macroeconomic trends in Singapore, we will limit ourselves to an application of the Precedent Approach and the Arithmetic Approach. However, counsel in future cases might take note of the guidance we have given in this judgment on the desirability and utility of suitable financial and actuarial evidence.

FME

Multiplier

68 It is undisputed that Quek needs medical treatment for the remainder of his life for his injuries due to the Accident. His FME award should therefore be pegged to his remaining life expectancy: the number of years that he is expected to live, going forward. Absent evidence that his lifespan differs from that of the national average male, his remaining life expectancy is calculated by subtracting his age from the average male life expectancy in Singapore at the time of the assessment of damages (see the decision of this court in *Lee Wei Kong (by his litigation representative Lee Swee Chit) v Ng Siok Tong* [2012] 2 SLR 85 ("*Lee Wei Kong*") at [52]).

69 In the existing precedents, 75 years is typically taken as the life expectancy of a male claimant in Singapore (see, *eg*, *Lee Wei Kong* and the

Singapore High Court decision of *Ng Song Leng v Soh Kim Seng Engineering & Trading Pte Ltd and Another* [1997] SGHC 289 ("*Ng Song Leng*")). Nevertheless, counsel for Quek accepts (correctly, in our view) that it is appropriate to use a "conservative estimate" of 74 years as Quek's expected life span (see above at [28]). Hence, we find that Quek's remaining life expectancy, with reference to which the multiplier for FME will be calculated, is 50 years. This is the difference between Quek's expected life span of 74 years and his age of 24 years at time of the assessment of damages.

70 We do not accept a submission made by counsel for Yeo that Quek's smoking of 10 cigarettes a day reduced his remaining life expectancy. There was little evidence on the effect of Quek's smoking on his remaining life expectancy. Dr Lee Soon Tai ("Dr Lee"), Yeo's orthopaedic expert, gave evidence that "the smoking may affect his … longevity in life or life expectancy … but not severely." No other expert disputed this evidence, and indeed, no other expert was even asked about Quek's remaining life expectancy. We therefore see no reason not to take 50 years as Quek's remaining life expectancy.

71 The parties referred us to a variety of past cases in which multipliers for lifelong FME were awarded. These precedents can be clustered based on the length of the remaining life expectancy.

(a) Claimants with remaining life expectancies of approximately 50 years have received FME multipliers of between 17 and 20 years. These multipliers represent discount amounts of between 62% and 67% *vis-à-vis* the claimants' remaining life expectancies:

(i) In the Singapore Court of Appeal decision of *TV Media Pte Ltd v De Cruz Andrea Heidi* [2004] 3 SLR(R) 543 ("*TV*

Media"), a claimant with a remaining life expectancy of 51 years received a 17-year multiplier – a 67% discount amount.

(ii) In *Lee Wei Kong*, a claimant with a remaining life expectancy of 53 years received a 20-year multiplier – a 62% discount amount.

(b) Claimants with remaining life expectancies of between 30 and 35 years have received FME multipliers of between 15 and 18 years. These multipliers represent discount amounts of between 47% and 51% *vis-à-vis* the claimants' remaining life expectancies:

(i) In *Ng Song Leng*, a claimant with a remaining life expectancy of 35 years received a 17-year multiplier – a 51% discount amount.

(ii) In *Hafizul*, a claimant with a remaining life expectancy of 34 years received an 18-year multiplier – a 47% discount amount.

(iii) In the Singapore High Court decision of *Tan Juay Mui (by his next friend Chew Chwee Kim) v Sher Kuan Hock and another (Liberty Insurance Pte Ltd, co-defendant; Liberty Insurance Pte Ltd and another, third parties)* [2012] 3 SLR 496 ("*Tan Juay Mui*"), a claimant with a remaining life expectancy of 32 years received a 17-year multiplier – a 47% discount amount.

(iv) In *Eugene Lai*, a claimant with a remaining life expectancy of 30 years received a 15-year multiplier – a 50%

discount amount. However, it was held at [43] that this award was "perhaps on the low side":

> … The AR's choice of a 15-year multiplier for FME, while perhaps on the low side, remains within the range contemplated by the authorities. It is not manifestly inadequate. We therefore see no reason to interfere with the AR's award for FME.

(c) Claimants with remaining life expectancies of under 30 years, a sampling of recent cases we survey for completeness:

(i) In *AOD*, a claimant with a remaining life expectancy of approximately 27 years received a 14-year multiplier – a 48% discount amount.

(ii) In *Lee Mui Yeng v Ng Tong Yoo* [2016] SGHC 46 ("*Lee Mui Yeng*"), a claimant with a remaining life expectancy of 21 years received a 10.5-year multiplier – a 50% discount amount.

(iii) In *Toh Wai Sie*, a claimant with a remaining life expectancy of 9 years received a 9-year multiplier – zero discount.

72 For ease of comparison between these FME multipliers, which involved claimants of rather different remaining life expectancies, we have tabulated the annualised discount rates (compounded annually) implicit in these awards. We set out also the Judge's award to Quek of an 18-year FME multiplier, which represents a 64% discount *amount* compared with his 50-year remaining life expectancy, and works out to an annualised discount *rate* of approximately 5.44% per annum:

	Remaining Life Expectancy	**Multiplier for FME**	**Discount *Amount***	**Discount *Rate**** **(Annual)**
Lee Wei Kong	53 years	20.0 years	62%	4.80%
TV Media	51 years	17.0 years	67%	5.89%
Quek's Case	**50 years**	**18.0 years**	**64%**	**5.44%**
Ng Song Leng	35 years	17.0 years	51%	5.10%
Hafizul	34 years	18.0 years	47%	4.51%
Tan Juay Mui	32 years	17.0 years	47%	4.78%
Eugene Lai	30 years	15.0 years	50%	5.72%
AOD	27 years	14.0 years	48%	6.00%
Lee Mui Yeng	21 years	10.5 years	50%	8.45%
Toh Wai Sie	9 years	9.0 years	0%	0.00%

*This discount rate is calculated based on the following formula:

$$Multiplier = \frac{1}{(1+r)^0} + \frac{1}{(1+r)^1} + \ldots + \frac{1}{(1+r)^{n-1}} + \frac{1}{(1+r)^n} = \sum_{t=0}^{n} \frac{1}{(1+r)}$$

We solved for the discount rate that would make the equation work, where "*r*" denotes the discount rate and "*n*" denotes the number of periods of future loss (or future payments).

We derived these discount rates with a Microsoft Excel spreadsheet, which calculated the rates through a process of iteration: trying different discount rates to identify a discount rate that gives a present value of the stream of future losses across this period that equals the product of the multiplier and multiplicand. Conversely, the sum of the present values (at the relevant

discount rate) of the stream of future losses across the remaining life expectancy of each claimant would equal the quantum of the multiplier awarded to him or her.

73 We take Quek's case as an example. At the 5.44% discount rate implicit in the Judge's award, every $1 of annual multiplicand awarded to Quek has a present value of (a) $1.0000 at the time of the assessment of damages (when Quek is 24 years of age); (b) $0.9484 one year later (when Quek is 25 years of age); (c) between $0.0744 and $0.9484 each year thereafter; and (d) $0.0744 in the last year of Quek's remaining life expectancy (when Quek is 74 years of age). Summing this stream of receipts will give a present value equivalent to 18 times of every $1 of annual multiplicand awarded to Quek. We set out the present values of each payment that Quek would receive in an Annexure to this Judgment.

74 A similar mathematical approach was taken as far back as in *Mallett v McMonagle* at 177, where Lord Diplock observed (in the context of a multiplier for a dependency claim):

> … In cases such as the present where the deceased was aged 25 and his widow about the same age, courts have not infrequently awarded 16 years' purchase of the dependency. It is seldom that this number of years' purchase is exceeded. It represents the capital value of an annuity certain for a period of 26 years at interest rates of 4 per cent., 29 years at interest rates of 4½ per cent. Or 33 years at interest rates of 5 per cent. …

Mallett v McMonagle was followed in the context of a multiplier for personal injuries in the House of Lords decision of *Cookson v Knowles* at 577 *per* Lord Fraser of Tullybelton (this last mentioned case was departed from by the UK Supreme Court in *Knauer v Ministry of Justice* [2016] 2 WLR 672, but not on this particular point). And the observations of the House of Lords in

Cookson v Knowles have been followed by the Hong Kong Court of First Instance in *Chan Pak Ting* and this court in *Eugene Lai*.

75 We recognise that there is more than one way of calculating a discount rate, depending particularly on the frequency with which an annual interest rate is compounded. We acknowledge, too, the observations in *Paul v Rendell* at 579–580 that it may be unfruitful and even unhelpful "[t]o undertake detailed mathematical calculations in which nearly every factor is so speculative or unreliable in order to assess the capital sum to represent what is only one of several components in a total award of compensation". Our purpose for calculating the discount rate here is not to prescribe an exclusive methodology for doing so in personal injuries cases. Rather, what we seek to do is to establish a more principled basis for comparing between the multipliers awarded in previous cases than simply looking at the discount amounts awarded there. In any event, as long as a single methodology is applied consistently, the differences in the results produced under different calculations are unlikely to be significant.

76 Amongst the precedents referred to by the parties, we find *Lee Wei Kong* and *TV Media* to be most relevant. The 53-year and 51-year remaining life expectancies in the respective cases are most similar to the 50-year remaining life expectancy of Quek. The investment choices of the claimants there in respect of their FME awards, as driven by their specific needs and goals based on their age at least, would likely be most comparable to those of Quek (see above at [64]).

77 There is, however, quite a large disparity in the discount rates reflected in the FME multipliers in *Lee Wei Kong* (4.80% per annum) and in *TV Media* (5.89% per annum). On facts of this case, we prefer the discount rate of 4.80%

per annum applied in *Lee Wei Kong*. First, the position that Quek was in at the time of the assessment of damages was closer to that of the 22-year-old male claimant in *Lee Wei Kong* than that of the 29-year-old female claimant in *TV Media*. Second, the economic circumstances of today are more similar to those in 2012 when *Lee Wei Kong* was decided, than those in 2004 when *TV Media* was decided. Third, the multiplier in *Lee Wei Kong* appears to have been determined on a more persuasive basis: the court in *TV Media* appears to have considered only the age of the claimant (see *TV Media* at [183]), whereas the court in *Lee Wei Kong* explicitly considered the effect of accelerated receipt and other contingencies (see *Lee Wei Kong* at [52]).

78 But more importantly perhaps, the implicit rate of return for awards of damages in Singapore has been between 4% and 5% per annum (see *Eugene Lai* at [28]). Although adjustments for contingencies may raise the discount rate beyond this range, multiplier awards involving discount rates significantly above the upper end of the range (*ie*, 5% per annum) should, in our view, be treated with caution. This is particularly the case given the climate of low interest rates that has persisted for the past 15 years and which continues today (see above at [55]).

79 Accordingly, we apply the discount rate of 4.80% per annum in *Lee Wei Kong* to Quek's 50-year remaining life expectancy. This gives a multiplier of 19.7 years. In light of the possibility that the claimant in *Lee Wei Kong*, unlike Quek, would not require FME for the entirety of the remainder of his life, we award Quek a 20-year FME multiplier.

80 It is important, at this juncture, to emphasise the fact that the analysis that is entailed in proceedings of this nature is – as we have already noted – an interactive one in at least two ways. It is interactive inasmuch as no single

approach applies in a dogmatic or mechanistic fashion and, hence, the Precedent Approach and the Arithmetic Approach in fact complement each other – until such time when authoritative actuarial tables are available (a task which is outside the remit of the courts). We have also attempted to introduce more nuance into the process by considering discount rates (in addition to discount amounts) – thus facilitating an at least potentially more accurate ascertainment of the appropriate multiplier through a more nuanced interaction between the multipliers in the existing precedents, on the one hand, and the actual facts as well as the context of the case at hand, on the other (this being a second, and slightly different, process of interaction).

Multiplicand

81 We turn now to consider the appropriate multiplicand for FME.

(1) Daily prostheses

82 We agree with the Judge's award of the costs of the use and replacement of a K3 prosthesis to Quek at a rate of $3,585.30 per annum for the remainder of his life.

83 We do not accept Quek's submission that he needs a K4 prosthesis. Quek's own expert, Dr Euan Wilson ("Dr Wilson"), testified that Quek needs only a K3 prosthesis, and accepted that a K4 prosthesis is "not something that [Quek] needs at the moment". The only sporting interest that Quek has demonstrated is that of archery, and Dr Wilson accepted that a K3 prosthesis is sufficient for archery. Finally, although Quek appears to have worn out the first K3 prosthesis with which he was fitted on or around 28 October 2011 earlier than expected, there is no evidence that the K3 prosthesis that was installed in its place has been inadequate for Quek's needs.

84 We do not accept Yeo's submission that Quek should be downgraded to a K2 prosthesis after the age of 60 years. Even if, as Yeo submits, muscle fatigue and atrophy with aging would reduce Quek's activity level in his later years, it would be unduly onerous for Quek to have to adapt to the restricted range of activities that a K2 prosthesis permits.

85 There is no basis for Quek's contention that the award of FME in respect of his prostheses should be increased on account of inflation in the price of the prostheses at a rate of between 3% and 5% per annum. Although Dr Wilson had suggested such a figure in his expert report, he had accepted in cross-examination that he did not expect the prices of K3 prostheses to be any more than their current prices.

(2) Single K4 prosthesis

86 We set aside the Judge's award of $7,276.00 for the costs of the single K4 prosthesis that Quek had purchased to explore his options while adjusting to his post-amputation situation. These costs had been awarded to Quek as part of his special damages for pre-trial medical expenses, and should not have been awarded again as general damages for FME. Quek was thus compensated twice over for his loss. The setting aside of this part of the Judge's award does not affect the calculation of interest because the Judge awarded interest on general damages only in respect of pain and suffering (see the GD at [113] and [119]).

(3) Aqua limb

87 We agree with the Judge's award of the costs of an aqua limb to Quek at a rate of $710.00 per annum for the remainder of his life. Quek is entitled to such compensation as is reasonably necessary to restore him to the position he

was in before the Accident. It is a real possibility that Quek will have in the future to shower in bathrooms that have not been adapted to his needs. To require Quek to shower in such bathrooms while sitting down or balancing on one leg would be to impose an onerous burden on him, and the Judge cannot be faulted for seeking to spare Quek this burden by an award of an aqua limb.

(4) Neuroma and right collarbone surgeries

88 We agree with the Judge's award of provisional damages. Beyond pointing out that damages should be assessed once-and-for-all in the interests of certainty and finality in litigation, Quek offers no reasons in support of his submission that the damages for his neuroma and right collarbone surgeries should be paid forthwith. We agree that the need for these surgeries is, as yet, unclear, and there is therefore no reason to disturb the Judge's making of an award of provisional damages in respect of them.

Conclusion

89 Based on a multiplier of 20 years and a multiplicand of $4,295.30 per annum ($3,585.30 + $710.00 = $4,295.30), we award Quek a total of $85,906.00 in FME in respect of his prostheses and his aqua limb.

90 We set aside the Judge's award of $7,276.00 in FME for the costs of the single K4 prosthesis purchased by Quek.

91 We affirm the Judge's award of provisional damages in respect of the surgical excision of Quek's neuroma and the surgical treatment of Quek's right collarbone.

LFE/LEC

Multiplier

92 The period of future loss for the purpose of the multiplier for LFE/LEC is the expected *remaining working life of the claimant but for the accident*. The statutory minimum retirement age is one factor in the analysis. Owing to such factors as the particular characteristics of the claimant and the nature of the work concerned, he may be expected to retire before, at, or after the statutory retirement age (see *Eugene Lai* at [26]).

93 With effect from 1 July 2017, the statutory minimum retirement age as set out in the Retirement and Re-employment Act (Cap 274A, 2012 Rev Ed) will be raised from 65 years to 67 years. This should be considered in determining the appropriate multiplier for LFE/LEC for Quek (see *Eugene Lai* at [26]).

94 Based on a statutory minimum retirement age of 67 years, but for the Accident, a 24-year-old like Quek (as of the time of the assessment of damages) would be expected to have a remaining working life of 43 years.

95 In *Neo Kim Seng v Clough Petrosea Pte Ltd* [1996] 2 SLR(R) 413, the Singapore High Court observed at [15] that a manual worker would typically enjoy a shorter working life compared to a white collar worker. This was "in view of the physical demands made on a [manual worker] by the nature of his job" (*ibid*).

96 It was undisputed that but for the Accident, Quek would likely have been engaged in manual work, given his relatively low level of education. However, Quek submits that he would likely have worked past the minimum

retirement age of 67 years due to his low level of education. On the other hand, Yeo argues that Quek would likely experience difficulty in remaining employed in his later years due to his declining physical abilities. In our view, there is insufficient evidence to demonstrate either possibility on a balance of probabilities. We will thus take 67 years as Quek's retirement age and adopt a remaining working life of 43 years to calculate his LFE/LEC multiplier.

97 The approach for calculating the LFE/LEC multiplier should be similar to that for calculating the FME multiplier. Where possible, both the Precedent Approach and the Arithmetic Approach should be used, with the multiplier derived under each approach cross-checked against the multiplier derived under the other. Further, discount *rates* provide for more meaningful and accurate evaluations of different cases as compared with discount amounts (see above at [60]–[65]).

98 Once again, we set out a table of the relevant precedents and the annualised discount rates implicit therein (net of contingencies), compounded monthly, and derived through a similar iterative process as that which we applied for the FME multiplier (see above at [72]). Where necessary, we have calculated the figures for remaining working life based on the difference between the age of the claimant and the prevailing retirement age at the time of the assessment of damages. For *Teo Ai Ling*, we used the multiplier awarded by the High Court (see *Teo Ai Ling (by her next friend Chua Wee Bee) v Koh Chai Kwang* [2010] 2 SLR 1037), which was not disapproved on appeal even though the Court of Appeal substituted the award for LFE with a provisional damages award.

	Remaining Working	**Multiplier for**	**Discount *Amount***	**Discount *Rate***

	Life	**LEC/LFE**		**(Annual)**
Lee Wei Kong	43 years	20.0 years	53%	4.27%
Quek's Case	**43 years**	**18.0 years**	**58%**	**5.01%**
Teo Ai Ling	42 years	20.0 years	52%	4.21%
Hafizul	36 years	17.0 years	53%	5.00%
Teo Seng Kiat	34 years	18.0 years	47%	4.35%

99 We find annualised discount rates in *Lee Wei Kong* (4.27% per annum) and *Teo Ai Ling* (4.21% per annum) the most relevant to Quek's case. The claimants in those cases were, like Quek, young persons who had long remaining working lives of over 40 years at the time of their assessments of damages. They were also likely to have worked in Singapore for the remainder of their working lives. This is in contrast to the Bangladeshi claimant in *Hafizul* who was "not likely [to] have worked as a construction worker in Singapore for the remainder of his working life". Because of this contingency, a further discount to the multiplier (beyond the discount for accelerated receipt) would have been appropriate (see *Hafizul* at [59]).

100 Applying the discount rate of 4.21% per annum in *Teo Ai Ling* or 4.27% per annum in *Lee Wei Kong* to Quek's 43 years of remaining working life would give a multiplier of approximately 20 years. Accordingly, we award Quek a multiplier of 20 years for LFE/LEC.

101 Going forward, we reiterate our observations that we made in the context of the multiplier for FME on the value of counsel providing relevant actuarial data to justify the discounts that they seek (see above at [62]).

Multiplicand for LFE

102 We agree with the Judge that there is insufficient evidence to justify an award of LFE.

103 In *Teo Ai Ling*, we set out at [37] the principles relating to awards of LFE and LEC to personal injury claimants as follows:

> Normally, damages on the basis of LFE are awarded when the injured party is *unable to go back to his pre-accident employment* and has to take on a lower paying job. In such a case, the loss will be calculated based on a multiplier and a multiplicand, the multiplicand being the monthly loss in pay and the multiplier being the appropriate period over which to compute the loss. In contrast, where the injured party does not suffered [*sic*] an immediate wage reduction … but there is a risk that he may lose that employment at some point in the future and he may, as a result of his injury, be at a disadvantage in getting another job or getting an equally well-paid job in the open market, then the LEC would be the correct basis to compensate him for the loss. [emphasis added]

104 Although we proceeded to observe in *Teo Ai Ling* at [38] that LFE can be awarded to a claimant who is a young child or a student who has yet to enter the labour market, we emphasised that there must be "sufficient objective facts or evidence to enable the court to reasonably make the assessment". In particular, there must be a stream of future income that the claimant had a reasonable expectation of earning, and of which he or she was deprived by virtue of the accident. Such was the case in *AOD*, where it was undisputed that the 9-year-old claimant would have started work at 22 years of age, and neither party suggested that the claimant would not have remained employed thereafter. George Wei J thus pegged the LFE multiplicand to the national averages, which he calculated by averaging the commencing salaries across the eight broad occupational groups in what appears to be the MoM Tables. Similarly, in the Singapore High Court decisions of *Eddie Toon*

and *Peh Diana and another v Tan Miang Lee* [1991] 1 SLR(R) 22 ("*Peh Diana*"), on which Quek relied in support of his claim for LFE, there was no evidence that the claimants would not have entered and then remained in the workforce.

105 The MoM Tables that Quek submits enable the calculation of LFE in his case simply provide objective data from which mean salaries can be extrapolated. However, before an award of LFE can be made, the claimant must demonstrate that *he* had in fact been preparing to embark on a career. Such evidence is lacking in Quek's case. Quek dropped out of school without completing Secondary Three and has had a very sketchy employment history since. In the four years between dropping out of school and enlisting in National Service, he was unable to secure a full-time job and shuttled between part-time jobs. Moreover, as the Judge found, Quek has been unable to demonstrate a sustained interest in or aptitude for any trade, having been dismissed on grounds of tardiness from his employment with TC Homeplus (in 2008, before the Accident) and again with Unique Motorsports (in 2016, after the Accident). Unlike the claimants in *AOD*, *Eddie Toon*, and *Peh Diana*, it is unclear as to whether Quek could even have obtained employment and continued in such employment. There was therefore no stream of future income that Quek could point to justify an award of LFE.

106 The mere existence of national income statistics such as the MoM Tables cannot, in of itself, justify an award of LFE. Otherwise, every claimant will almost invariably be entitled to an award of LFE, for recourse can easily be had to national income statistics, and the court is unlikely to accept a proposition that someone is completely inept. A claimant who would have in the absence of the accident earned an income well below the national average could, simply by refusing to provide evidence on his income, place

himself in a position to receive the national average income. Such enrichment goes beyond the permissible scope of compensation for personal injuries.

107 We thus agree with the Judge that there are insufficient objective facts or evidence to enable the court to reasonably assess LFE in Quek's case.

Multiplicand for LEC

108 We agree with the Judge's award of $750.00 per month for LEC.

109 Yeo relies almost exclusively on *Teo Seng Kiat*, which the Judge applied in awarding Quek an 18-year multiplier of LFE/LEC, to contend that Quek should receive only $500.00 per month as his multiplicand for LEC. In *Teo Seng Kiat* at [13] and [16], Selvam J awarded the 28-year-old claimant a multiplicand of $500.00 per month after finding that the claimant had suffered approximately a 25% loss of his pre-accident earning capacity of $2,100.00 per month. However, Selvam J noted at [13] that the claimant had "magnified [his loss of earning capacity] to maximise his claim for damages" and "psychologically opt[ed] out of hard work in the hope of recovering his perceived loss of earnings from the defendant who in fact was an insurance company". In contrast, the Judge found in this case that it was "clear that [Quek's] injuries have *significantly* reduced his employability" [emphasis added] (see the GD at [89]). Moreover, Yeo does not dispute the Judge's finding that Quek can no longer carry loads of over 20kg (see the GD at [89]), and in fact conceded in his submissions that Quek's "physical disability … may likely weaken his competitive position in the open labour market". Although Quek accepts that his employment with Unique Motorsports was terminated because of his tardiness, Yeo does not challenge Quek's evidence

that he struggled with the heavy loads that he was required to manoeuvre, even in a "sales admin" job with Unique Motorsports.

110 Although *Teo Seng Kiat* was reported only in the first volume of the Singapore Law Reports for 2003, it was actually decided in 2000, which was 16 years before the assessment of damages in Quek's case. The change in the value of money due to inflation would not have been insignificant. The differences between the figures in the Guidelines and in *Pang Teck Kong* for general damages for pain and suffering for a below-knee amputation provide a useful comparator. The Guidelines were promulgated 18 years after the decision in *Pang Teck Kong*, and the authors thereof recommended a 40% increase in the maximum value of the award (see above at [41]).

111 As for Quek's contention that the Judge wrongly reduced the multiplicand on the ground of his prior wrist injury, one of Quek's orthopaedic experts, Dr Chang Haw Chong, testified that the fractures in Quek's wrist were not displaced and that Quek was "very unlikely" to suffer post-traumatic osteoarthritis in his wrist. However, this evidence was not corroborated by the testimony of Quek's other orthopaedic expert, Dr Foo Siang Shen, Leon, who accepted that "the kind of work [Quek] could have done would have been restricted" and that Quek would be considered "not 100% able" due to this prior wrist injury.

112 We thus affirm the Judge's award of an LEC multiplicand of $750.00 per month.

Conclusion

113 We affirm the Judge's refusal of Quek's claim for LFE, and his decision to make an award of LEC instead. Based on a 20-year multiplier and a $750.00 per month multiplicand, we award Quek a total of $180,000.00 for LEC.

Our orders

114 For the reasons set out above, we increase the total award to Quek from $452,509.41 to **$471,823.94**.

115 We will hear parties on costs.

Sundaresh Menon
Chief Justice

Andrew Phang Boon Leong
Judge of Appeal

P Padman and Hue Jia Pei (KSCGP Juris LLP) for the appellant in Civil Appeal No 45 of 2016 and the respondent in Civil Appeal No 52 of 2016;
Renuka d/o Karuppan Chettiar (Karuppan Chettiar & Partners) for the respondent in Civil Appeal No 45 of 2016 and the appellant in Civil Appeal No 52 of 2016.

ANNEXURE

PRESENT VALUES OF STREAM OF INCOME AT A DISCOUNT RATE OF 5.44%

Quek has a remaining life expectancy of 50 years. The 18-year multiplier awarded by the Judge for FME implies a discount rate of 5.44% per annum on a stream of future payments each equivalent to the value of the multiplicand. The present value of each future payment *as a fraction of its nominal value* across the 50 years of the award is set out in the table below. Summing all these fractions gives 18.0000, which is the multiplier awarded by the Judge, based on an application of the equation at [72] above:

$$18.0000 = \sum_{t=0}^{49} \frac{1}{(1+0.0544)^t} = \frac{1}{(1+0.0544)^0} + \frac{1}{(1+0.0544)^1} + \ldots + \frac{1}{(1+0.0544)^{49}}$$

Year	Nominal Value	Present Value	Year	Nominal Value	Present Value
0	1.00	1.0000	**25**	1.00	0.2657
1	1.00	0.9484	**26**	1.00	0.2520
2	1.00	0.8994	**27**	1.00	0.2390
3	1.00	0.8530	**28**	1.00	0.2266
4	1.00	0.8089	**29**	1.00	0.2149
5	1.00	0.7672	**30**	1.00	0.2038
6	1.00	0.7275	**31**	1.00	0.1933
7	1.00	0.6900	**32**	1.00	0.1833
8	1.00	0.6544	**33**	1.00	0.1739

9	1.00	0.6206	**34**	1.00	0.1649
10	1.00	0.5885	**35**	1.00	0.1564
11	1.00	0.5581	**36**	1.00	0.1483
12	1.00	0.5293	**37**	1.00	0.1406
13	1.00	0.5020	**38**	1.00	0.1334
14	1.00	0.4761	**39**	1.00	0.1265
15	1.00	0.4515	**40**	1.00	0.1200
16	1.00	0.4282	**41**	1.00	0.1138
17	1.00	0.4061	**42**	1.00	0.1079
18	1.00	0.3851	**43**	1.00	0.1023
19	1.00	0.3652	**44**	1.00	0.0970
20	1.00	0.3464	**45**	1.00	0.0920
21	1.00	0.3285	**46**	1.00	0.0873
22	1.00	0.3115	**47**	1.00	0.0828
23	1.00	0.2954	**48**	1.00	0.0785
24	1.00	0.2802	**49**	1.00	0.0744
Sub-Total		14.2213	**Sub-Total**		3.7787
Grand Total			18.0000		