# Crescendas Bionics Pte Ltd *v* Jurong Primewide Pte Ltd

*[2021] SGHC 189*

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| **Case Number** | : Suit No 477 of 2015 |
| **Decision Date** | : 10 August 2021 |
| **Tribunal/Court** | : General Division of the High Court |
| **Coram** | : Tan Siong Thye J |
| **Counsel Name(s)** | : Parmar Karam Singh, Leong Lijie and Chan Michael Karfai (Tan Kok Quan Partnership) for the plaintiff; Koh Kia Jeng, Lau Wen Jin, Tay Yoong Xin Avril and Alexander Choo Wei Wen (Dentons Rodyk & Davidson LLP) for the defendant. |
| **Parties** | : Crescendas Bionics Pte Ltd — Jurong Primewide Pte Ltd |

*Building and Construction Law – Damages – Delay in completion*

*Contract – Remedies – Damages – Causation*

*Contract – Remedies – Liquidated damages*

*Contract – Remedies – Remoteness of damage*

*Damages – Apportionment*

*Damages – Assessment*

*Damages – Measure of damages – Contract*

*Damages – Mitigation – Contract*

*Damages – Quantum*

*Damages – Remoteness*

*Evidence – Principles – Functions of judge*

*Evidence – Witnesses – Expert witnesses*

10 August 2021

Judgment reserved.

**Tan Siong Thye J:**

**Introduction**

1 The plaintiff is Crescendas Bionics Pte Ltd, a Singapore registered entity that was incorporated as a property developer.[note: 1] The defendant is Jurong Primewide Pte Ltd, a general building contractor registered as a Grade A1 contractor with the Building and Construction Authority ("BCA").[note: 2]

2 On 30 June 2008, the parties signed a four-page Letter of Intent dated 26 June 2008 (the "LOI") under which the plaintiff engaged the defendant as the management contractor to build Biopolis 3, a seven-storey multi-tenanted business park development at Biopolis Drive/Biomedical

Grove in One-North.[note: 3] Biopolis 3 was positioned as a research and development ("R&D") hub for biomedical sciences ("BMS") institutes and organisations, offering specialised facilities such as wet laboratories, chemistry laboratories and an animal facility.[note: 4] It is the third phase of the Biopolis hub after Biopolis 1 and Biopolis 2.

3 After the LOI was signed, the parties' relationship deteriorated as they disagreed on their respective obligations and the scope of their responsibilities under the LOI. In addition, there were delays in the completion of Biopolis 3, which was eventually certified as completed by the Superintending Officer, Jurong Consultants Pte Ltd (the "SO"), on 12 January 2011.[note: 5] It was undisputed that the time taken for completion exceeded the time period of 18 months stipulated in the LOI for the defendant to complete Biopolis 3. The plaintiff thus brought this Suit against the defendant and the defendant also brought various counterclaims against the plaintiff.

4 The trial was bifurcated on 19 February 2018[note: 6] and I made my findings on the liabilities of the parties in *Crescendas Bionics Pte Ltd v Jurong Primewide Pte Ltd* [2019] SGHC 4 (the "Liability Judgment (HC)"). The Liability Judgment (HC) was affirmed on appeal in *Jurong Primewide Pte Ltd v Crescendas Bionics Pte Ltd and another appeal* [2019] SGCA 63 (the "Liability Judgment (CA)"), save in relation to one point material to the present proceedings: namely, the time taken for the capping beams work (see the Liability Judgment (CA) at [16]–[20]).

5 For the purposes of the present proceedings, the most relevant findings made in the Liability Judgment (HC) and the Liability Judgment (CA) are that the plaintiff was responsible for 173 days of delay in the completion of Biopolis 3 caused by its acts of prevention (see the Liability Judgment (HC) at [352]), while the defendant was responsible for 161 days of delay (see the Liability Judgment (CA) at [14]–[20]). On this basis, the defendant was found to be liable to the plaintiff for general damages for 161 days of delay.

6 In these proceedings, the plaintiff seeks an assessment of the general damages due to it in respect of the 161 days of delay for which the defendant was responsible, as the contractual provision on liquidated damages in the LOI was rendered inoperative as a result of the acts of prevention by the plaintiff.

**Background to the dispute**

7 The background facts have been set out in detail in the Liability Judgment (HC). I shall, therefore, summarise only the most salient facts which are relevant to these assessment of damages proceedings.

***Date on which Biopolis 3 was deemed completed under the LOI***

8 Clause 5.0 of the LOI provided that the commencement date of the construction of Biopolis 3 was 23 July 2008 and the date on which Biopolis 3 was to reach "substantial completion" was 22 January 2010 (18 months from 23 July 2008). The contract period was the period from 23 July 2008 to 22 January 2010. Biopolis 3 was certified to be completed on 12 January 2011. The parties agreed that the contractual completion date was 22 January 2010,[note: 7] but disagreed on the meaning of "substantial completion" in cl 5.0.

9 In the Liability Judgment (HC), I found that contractual completion was reached when Biopolis 3 was ready for Temporary Occupation Permit ("TOP") application and inspection, and not when the TOP was granted. The BCA had directed the SO to apply for the TOP on 22 December 2010. Hence,

under cl 5.0 of the LOI, Biopolis 3 was deemed to be completed on 22 December 2010 (see the Liability Judgment (HC) at [223]–[244]).[note: 8] Therefore, the completion of Biopolis 3 was delayed by a total of 334 days, from 22 January 2010 to 22 December 2010.[note: 9]

***Liabilities for the delays in the completion of Biopolis 3***

*Delays attributable to the plaintiff*

10 In the Liability Judgment (HC), I found that the plaintiff had committed several acts of prevention which caused the completion of Biopolis 3 to be delayed by a total of 173 days (see the Liability Judgment (HC) at [351]–[352]).[note: 10] I also found that the plaintiff had embarked on a subtle campaign to slow down the completion of Biopolis 3 while attempting to avoid having to bear any financial responsibility for doing so. This was largely because the global financial crisis ("GFC") in late 2008 moderated construction prices and threw a pall of uncertainty over the demand for space in Biopolis 3 at that time (see the Liability Judgment (HC) at [378]–[385]).

11 I shall now briefly outline each of the acts of prevention committed by the plaintiff.

(1) Delay arising from the termination of the Resident Engineer without immediate replacement

12 On 23 December 2008, the plaintiff terminated the Resident Engineer without providing an immediate replacement. Without a Resident Engineer on site for any period of time, piling works could not proceed. This caused a delay of six days, from 26 to 31 December 2008 (see the Liability Judgment (HC) at [255]–[268]).

(2) Delay in the award of the reinforced concrete works

13 In emails dated 13 December 2008 and 19 December 2008, the plaintiff directed the defendant not to award any more trade contracts without the plaintiff's endorsement and approval. This instruction was not revoked by the plaintiff (see the Liability Judgment (HC) at [271]–[290]).

14 Further, on 7 January 2009, at the last stage of the tender process, the plaintiff introduced Chang Hua Pte Ltd as a tenderer for the reinforced concrete works ("RC works"). The defendant required additional time of about a month to consider Chang Hua Pte Ltd's tender submissions (see the Liability Judgment (HC) at [291]–[294]).

15 Subsequently, after the defendant submitted its tender report and recommendation to the plaintiff for approval on 5 February 2009, the plaintiff sat on it and did not give its approval notwithstanding reminders by the defendant that there would be cost and time implications arising from the plaintiff's delay in approving the tender recommendation. In the light of the delay, the plaintiff asked the defendant whether the short-listed tenderers for the RC works could re-submit their tenders based on a shorter project duration. The tenderers re-submitted their revised tender bids on 24 April 2009. At this point, the plaintiff introduced Tien Rui Pte Ltd and Shanghai Construction Co Pte Ltd's joint tender submissions on 24 April 2009. The defendant then went through the entire tender process again to consider these new joint tender submissions. The defendant's final tender recommendation was issued on 1 June 2009 and the plaintiff accepted this recommendation. The RC works trade contract was awarded on the same date (see the Liability Judgment (HC) at [295]–[303]).

16 But for the plaintiff's delaying actions, the RC works trade contract could have been awarded on 4 January 2009 (see the Liability Judgment (HC) at [308]). If the RC works trade contract had

been awarded on 4 January 2009, the Biopolis 3 site would have been ready for the RC works trade contractor to start work (see the Liability Judgment (HC) at [326]).

17 Therefore, I found that the plaintiff had caused 147 days of delay in the award and subsequent commencement of the RC works, for the period from 4 January 2009 to 1 June 2009 (see the Liability Judgment (HC) at [327]).

(3) Delay arising from the fabrication and installation of additional signage following the Registered Inspector's inspection

18 On 4 November 2010, the Registered Inspector ("RI") conducted a mechanical, electrical and architectural inspection of the Biopolis 3 site. On 9 November 2010, the SO informed the defendant that certain follow-up works had to be done, enclosing a list of the RI's comments. In particular, the defendant was instructed to fabricate and install additional signage.

19 I found that the fabrication and installation of the additional signage were additional works outside the scope of the defendant's work under the LOI, as the defendant had followed the architectural drawings provided by the SO. Further, I found that a reasonable time to complete the additional signage works was seven days (see the Liability Judgment (HC) at [341]–[344]).

20 Therefore, I found that the plaintiff had caused seven days of delay in relation to the fabrication and installation of additional signage following the RI inspection (see the Liability Judgment (HC) at [345]).

(4) Delay arising from the additional railing works following the BCA inspection

21 On 9 December 2010, the BCA conducted a pre-TOP inspection of Biopolis 3. On the same date, the SO wrote to the defendant enclosing a list of the BCA's comments for the defendant to follow up on. In particular, the defendant was instructed to install additional railings.

22 I found that the installation of additional railings, like the fabrication and installation of additional signage, were additional works outside the scope of the defendant's work under the LOI as the defendant had constructed the building pursuant to the architectural drawings prepared by the SO. I also found that the delay caused by the additional railing works was 13 days (see the Liability Judgment (HC) at [346]–[349]).

23 Therefore, I found that the plaintiff had caused 13 days of delay in relation to the additional railing works following the BCA inspection.

*Liquidated damages for the delay in completion*

24 Clause 6.0 of the LOI provided that, in the event of a delay in completing the construction and maintenance of Biopolis 3, the defendant would be liable to pay the plaintiff liquidated damages for late completion. The applicable rates of liquidated damages were $30,000 *per* day for the first 30 days that the works remained incomplete after the contract period; $70,000 *per* day for the next 30 days that the works remained incomplete after the contract period; and $50,000 *per* day for each day that the works remained incomplete beyond the 60th day after the contract period.[note: 11]

25 However, as the plaintiff was responsible for 173 days of delay due to its acts of prevention, the defendant was no longer bound to complete Biopolis 3 within 18 months as stipulated under cl 5.0 of the LOI. Consequently, the plaintiff's right to claim liquidated damages under cl 6.0 of the LOI no

longer applied (see the Liability Judgment (HC) at [353]–[354]).

*Delays attributable to the defendant*

26 In view of the plaintiff's acts of prevention, the Court of Appeal found that a reasonable time for the completion of Biopolis 3 was 18 months and 173 days from the commencement date of 23 July 2008.[note: 12] Hence, for Biopolis 3 to be completed within a reasonable time, it should have been completed by 14 July 2010. However, Biopolis 3 was in fact only completed on 22 December 2010. Therefore, the delay attributable to the defendant was 161 days (see the Liability Judgment (CA) at [17]–[20]).[note: 13]

**The parties' cases**

***The plaintiff's case***

27 The plaintiff submits that it is entitled to be restored to the position that it would have been in if there had been no breach of the LOI by the defendant.[note: 14] The plaintiff claims general damages for delayed completion in respect of three heads of loss: (a) loss of net rental revenue; (b) holding costs; and (c) expenses incurred in having to engage the relevant site staff.[note: 15]

28 The plaintiff engaged three expert witnesses to support its case: Mr Andre Toh Sern ("Mr Toh"), Dr Annie Woo Yen Lee ("Dr Woo") and Mr Dennis Yeo Huang Kiat ("Mr Yeo"). Mr Toh prepared two expert reports. Dr Woo also prepared two expert reports, the first of which was prepared jointly with Mr Yeo.

*Loss of net rental revenue*

29 The plaintiff claims that the delay in the completion of Biopolis 3 caused it to lose a real and substantial chance of earning its projected net rental revenues from leasing the units in Biopolis 3.[note: 16] According to the plaintiff, there is ample evidence that it would have had such a real or substantial chance, based on the 70 expressions of interest from prospective tenants before the completion of Biopolis 3 and data from comparable developments.[note: 17] The plaintiff claims this loss of net rental revenue as expectation loss. It had entered into the LOI in anticipation of earning rental revenue from Biopolis 3, but due to the delay in the completion of Biopolis 3, no rental revenue was earned before completion and less rental revenue was earned after completion.[note: 18]

30 The plaintiff submits that the delay in completion caused three forms of loss of net rental revenue:[note: 19]

(a) First, the loss of one year's net rental revenue for the period of delay itself (*ie*, for the period of 334 days from 22 January 2010 to 22 December 2010).

(b) Second, where the delay caused the loss of a prospective tenant who would otherwise have leased a unit in Biopolis 3 for a term of several years, the loss of net rental revenue for each year of the lost tenancy.

(c) Third, the loss of net rental revenue arising from the additional time required for Biopolis 3 to achieve stabilised occupancy as a result of the delay. Stabilised occupancy refers to the occupancy levels reached by a new property that are reasonably expected to continue into the

future with the proper marketing, management and maintenance (Denise Evans and O William Evans, *The Complete Real Estate Encyclopedia* (McGraw-Hill, 1st Ed, 2007) at p 387),[note: 20] though it does not require 100% occupancy.[note: 21] Stabilised occupancy is the "market potential" of the property.[note: 22] In particular, the plaintiff claims that the delay in completion led to two events which prolonged the time required for Biopolis 3 to achieve stabilised occupancy:

(i) First, the delay resulted in Biopolis 3 having zero pre-commitment tenants after its completion.[note: 23] This is because the delay made the completion date for Biopolis 3 uncertain, which in turn hindered negotiations with prospective tenants and the plaintiff's marketing efforts.[note: 24] This delay caused the loss of five major pre-commitment tenants which the plaintiff had aimed to secure for occupation in January 2010, namely, the Institute of Chemical and Engineering Sciences ("ICES") under the Agency for Science, Technology and Research; Abbott Laboratories (Singapore) Pte Ltd ("Abbott"); the Nanyang Technological University ("NTU"); PetNet Solutions Private Limited ("PetNet"); and Philip Morris Products SA ("Philip Morris").[note: 25] I shall refer to these five major pre-commitment tenants collectively as the "five pre-commitment tenants". According to the plaintiff, the loss of these pre-commitment tenants had a direct impact on the rental revenue that the plaintiff could have earned and it also undermined the market's confidence in Biopolis 3.[note: 26]

(ii) Second, the delay reduced the monopolistic advantages enjoyed by Biopolis 3 as the sole building of its kind on the market before competition increased following the award of the land tender for Biopolis 5.[note: 27] The land tender for Biopolis 5 was awarded to Ascendas Venture Pte Ltd ("Ascendas Venture") in March 2011, and the award of the tender was announced in May 2011.[note: 28] The plaintiff submits that if the delay had not occurred, Biopolis 3 would have reached stabilised occupancy of 90% before the completion of Biopolis 5 in February 2014.[note: 29]

31 In quantifying its loss of net rental revenue, the plaintiff submits that the appropriate method is what I shall refer to as the "multi-year model", which was adopted by Mr Toh.[note: 30] This is because its loss of net rental revenue was incurred over several years, from the date on which Biopolis 3 ought to have been handed over to the date on which stabilised occupancy was achieved (the "alleged loss period").[note: 31] Hence, under the multi-year model, the plaintiff claims, in its pleadings and opening statement, the difference between the *projected* net rental revenue that the plaintiff *could have earned* over the alleged loss period if there had been no delay in completion, and the *actual* net rental revenue earned by the plaintiff during the alleged loss period, with a discount of 8% applied to take into account project risks.[note: 32] However, in the plaintiff's oral submissions at the end of the trial, it informed the court that it would not rely on the actual net rental revenue figures originally used by Mr Toh.[note: 33]

32 Further, the plaintiff submits that its claim for loss of net rental revenue was not too remote.[note: 34] This loss arose naturally and according to the usual course of events from the defendant's delay in completing Biopolis 3. At the time the LOI was signed, it was within the defendant's reasonable contemplation that such loss of net rental revenue would ordinarily follow from the defendant's delay, because the defendant was aware that Biopolis 3 was intended to be a multi-tenanted development for the BMS R&D sector (*ie*, it had a limited tenant pool drawn from a narrow

sector of the real estate market) and that the plaintiff's revenue stream from Biopolis 3 came from the leasing of premises. Therefore, the defendant was aware (or ought to have been aware) that the delay would prolong the time needed for Biopolis 3 to achieve stabilised occupancy.[note: 35]

33 In any event, prior to the signing of the LOI, it was expressly made known to the defendant that any delay in completion would deprive the plaintiff of a chance to earn rental revenue. Thus, the plaintiff would seek to recover its loss of net rental revenue from the defendant in the event of such a delay.[note: 36] In particular, the defendant had special knowledge of the facts that would have alerted it to this type of loss.[note: 37] First, the defendant agreed to the liquidated damages rates stipulated in cl 6.0 of the LOI. Applying these rates, the liquidated damages payable for one-year delay would be approximately $18.25m, which was close to the actual gross revenue earned by the plaintiff at around 90% occupancy.[note: 38] Second, the plaintiff and Jurong International Holdings Pte Ltd ("JIHPL") (of which the defendant is a wholly owned subsidiary) had prepared revenue projections for Biopolis 3. This would have required JIHPL to conduct due diligence to project the future rental revenue stream for Biopolis 3.[note: 39]

34 Finally, the plaintiff submits that it made all reasonable efforts to market Biopolis 3 and to secure tenants.[note: 40] These efforts included setting up a dedicated in-house marketing team which worked closely with property agencies, government agencies and other industry players to market Biopolis 3.[note: 41] Therefore, the plaintiff argues that it took all reasonable steps to mitigate its loss of net rental revenue.

35 Consequently, the plaintiff claims it suffered a loss of net rental revenue of approximately $21.16m as a result of the delay in completion. The plaintiff used the multi-year model to compute this loss of net rental revenue. After apportioning this sum based on the period of delay attributable to the defendant (*ie*, 161 days), the plaintiff claims that the defendant is liable for a sum of $10.2m.[note: 42] Alternatively, if damages are awarded only in respect of the loss of net rental revenue for the period of delay in 2010 (which I shall call the "single-year model"), the plaintiff claims that it suffered a loss of net rental revenue ranging from $12.58m to $12.65m and that the defendant is liable for a sum of approximately $2.89m to $2.91m.[note: 43]

*Holding costs*

36 The plaintiff paid land rent of $2,122,123.87 to JTC Corporation (as the head lessor of the land on which Biopolis 3 is built) and property tax of $217,978.50 to the Inland Revenue Authority of Singapore ("IRAS") during the period of delay (collectively, the "holding costs"). The holding costs incurred by the plaintiff from 23 January 2010 (*ie*, the day after Biopolis 3 was due to be completed under the LOI) to 12 January 2011 (*ie*, the date on which Biopolis 3 was certified as completed) amounted to a total of $2,340,102.37.[note: 44] The plaintiff claims that the defendant is liable for the portion of these holding costs attributable to the defendant's delay.

37 The plaintiff submits that these holding costs are not too remote to be recoverable from the defendant because the defendant knew or should have known that the plaintiff would incur such holding costs, including during any period of delay in the completion of Biopolis 3.[note: 45]

38 Further, the plaintiff argues that it is entitled to recover these holding costs as wasted and additional expenditure (reliance losses) caused by the delay, in addition to its expectation losses in the form of loss of net rental revenue.[note: 46] This is because its claim is for loss of *net* rental

revenue, and not *gross* rental revenue. Therefore, it does not offend the rule against double recovery for the plaintiff to also claim the holding costs from the defendant.[note: 47]

*Site staff expenses*

39 The plaintiff submits that it was obliged to engage the relevant site staff for the duration of the construction of Biopolis 3, and that these site staff had to be deployed for the duration of the delay. The relevant site staff comprised Resident Engineers and Resident Technical Officers.[note: 48] The plaintiff had to pay the salaries of these site staff (the "site staff expenses") for the period from 23 January 2010 to 12 January 2011. The site staff expenses incurred by the plaintiff during this period amounted to $284,142.14.[note: 49] The plaintiff claims that the defendant is liable for the portion of these site staff expenses that is attributable to the defendant's delay as these site staff expenses were wasted and additional expenditure incurred by the plaintiff.[note: 50] The plaintiff contends that the site staff expenses are not too remote to be recoverable from the defendant because the defendant knew or should have known that the plaintiff would have to bear these expenses until Biopolis 3 was certified complete.[note: 51]

***The defendant's case***

40 The defendant engaged only one expert witness, Assoc Prof Yu Shi Ming ("Assoc Prof Yu"), who prepared two expert reports on the plaintiff's loss of net rental revenue.

*Loss of net rental revenue*

41 The defendant denies that the plaintiff was deprived of a real and substantial chance to lease units in Biopolis 3 and hence to earn rental revenue.[note: 52] Further, the defendant argues that the loss of net rental revenue allegedly suffered by the plaintiff was not caused by the 161 days of delay attributable to the defendant.[note: 53] Instead, the defendant contends that any such loss of net rental revenue suffered by the plaintiff may be attributable to other causes such as the GFC, or was caused and amplified by the plaintiff's own actions.[note: 54] In particular, the defendant argues that the alleged loss of net rental revenue was because the plaintiff's asking rental rates were unrealistically high. The plaintiff had failed to take into account the prevailing market conditions at the relevant time (including the GFC), which prevented the plaintiff from achieving higher occupancy rates for Biopolis 3. Thus, the unduly long time to achieve stabilised occupancy was not attributable to the defendant's delay.[note: 55] The defendant argues that the alleged loss of net rental revenue was also caused by the plaintiff's failure to effectively market the units to other prospective tenants and the plaintiff's own campaign to slow down the completion of Biopolis 3.[note: 56]

42 In any event, the defendant disputes the plaintiff's quantification of its loss of net rental revenue. The defendant submits that, if the multi-year model is to be applied, a more appropriate quantification of this loss is $362,183.83.[note: 57]

43 Alternatively, under the single-year model, the defendant submits that it should only be liable for a sum between $308,045.33 and $627,987.17 (depending on the parameters adopted by the court).[note: 58]

44 In addition, the defendant contends that the losses allegedly suffered by the plaintiff are too remote because they were not reasonably foreseeable and/or not within the reasonable contemplation

of the parties at the time when they signed the LOI, and/or that they are extraordinary losses.[note: 59] The defendant submits that the plaintiff's loss of net rental revenue did not flow naturally from the defendant's breach of contract, but rather arose from many variables and circumstances outside the defendant's control, such as the plaintiff's pricing and marketing strategy, the negotiations between the plaintiff and its prospective tenants, and market conditions.[note: 60] Further, the defendant contends that the plaintiff never informed the defendant that it would claim its loss of net rental revenue from the defendant in the event of a delay in completion.[note: 61]

45 The defendant also argues that the plaintiff's loss of net rental revenue was caused by the plaintiff's own actions and the plaintiff's failure to take all reasonable steps to mitigate its alleged loss of net rental revenue.[note: 62] According to the defendant, Biopolis 3 took an inordinate amount of time to achieve stabilised occupancy because the plaintiff persisted in adopting pricing and marketing strategies that did not match the market.[note: 63] In particular, the plaintiff's asking rental rates for Biopolis 3 were unrealistic in view of the prevailing market conditions. If the plaintiff had asked for more realistic rental rates, it would have achieved higher occupancy rates and this would have significantly reduced its alleged losses.[note: 64]

*Holding costs*

46 The defendant does not dispute the quantum of holding costs incurred by the plaintiff.[note: 65] However, the defendant contends that the plaintiff is not entitled to claim the alleged holding costs because the plaintiff had committed to incurring these holding costs before the signing of the LOI on 30 June 2008. Hence, the plaintiff would have incurred these holding costs regardless of whether there was a delay in the completion of Biopolis 3.[note: 66]

47 Further, the defendant argues that the alleged holding costs are too remote because they were not reasonably foreseeable and/or not within the reasonable contemplation of the parties at the time when they signed the LOI, and/or that they are extraordinary losses.[note: 67]

48 In any event, the defendant argues that the plaintiff cannot claim the holding costs in addition to its alleged loss of net rental revenue. This is because the plaintiff would have had to incur these holding costs in order to earn its alleged net rental revenue.[note: 68]

*Site staff expenses*

49 At the end of the trial the defendant admitted the quantum of site staff expenses incurred by the plaintiff.[note: 69] The defendant now accepts that it should be liable for a sum of $132,157.12 for the site staff expenses for its 161 days of delay.[note: 70]

*Effect of cl 6.0 of the LOI*

50 Further or in the alternative, the defendant contends that any damages payable by the defendant to the plaintiff due to the delay caused by the defendant cannot exceed the damages that the plaintiff could have obtained under cl 6.0 of the LOI had it not committed the various acts of prevention.[note: 71]

***Court expert***

51 In view of the extreme positions taken by the parties on the quantum of the plaintiff's loss of net rental revenue, the court decided to appoint a court expert to assist in this case. The parties were requested to submit two names for the court to select and the court chose Adjunct Assoc Prof Tay Kah Poh ("Assoc Prof Tay"). He prepared five expert reports on the plaintiff's loss of net rental revenue.

52 All the experts used the multi-year model, which is based on ascertaining the stabilised occupancy level that Biopolis 3 would have achieved, to quantify the plaintiff's loss of net rental revenue. I am of the view that the multi-year model is a mechanical accounting exercise which does not adequately take into account equity, fairness and remoteness of damage. I shall elaborate in greater detail below. Accordingly, the experts were instructed to also consider whether the single-year model could be used to quantify the loss of net rental revenue suffered by the plaintiff as a result of the combined delay by the parties in 2010.

**Issues to be determined**

53 The main issues that arise for my determination are, therefore, as follows:

(a) What is the effect of cl 6.0 of the LOI on the plaintiff's claim against the defendant for general damages in respect of the delay?

(b) Was the defendant's delay an effective cause of the losses suffered by the plaintiff? If so, how should these losses be apportioned between the plaintiff and the defendant?

(c) In respect of the plaintiff's claim for loss of net rental revenue:

(i) Is the plaintiff's loss of net rental revenue too remote to be recoverable from the defendant?

(ii) What is the appropriate and fair method of quantifying the plaintiff's loss of net rental revenue for the purposes of assessing the damages payable by the defendant?

(iii) What parameters should be adopted in quantifying the plaintiff's loss of net rental revenue?

(d) In respect of the plaintiff's claim for holding costs:

(i) Is the defendant liable for the holding costs?

(ii) Are the holding costs too remote to be recoverable from the defendant?

(iii) Is the plaintiff entitled to recover the holding costs in addition to damages for its loss of net rental revenue?

(e) How much is the defendant liable for in respect of the site staff expenses incurred by the plaintiff?

**My decision**

***Effect of cl 6.0 of the LOI***

54 I shall first briefly address the defendant's argument regarding the effect of cl 6.0 of the LOI. To recapitulate, cl 6.0 provided for liquidated damages to be payable by the defendant to the plaintiff in the event of late completion, at the following rates: $30,000 *per* day for the first 30 days; $70,000 *per* day for the next 30 days; and $50,000 *per* day for each subsequent day. However, the plaintiff's right to claim liquidated damages under cl 6.0 ceased to apply because the plaintiff had committed various acts of prevention (see [24]–[25] above).

*The parties' submissions*

55 The defendant contends that any general damages payable by the defendant to the plaintiff for the delay caused by the defendant cannot exceed the liquidated damages that the plaintiff could have obtained under cl 6.0 of the LOI had it not committed the various acts of prevention.[note: 72] The defendant submits that the parties' fixation on the liquidated damages rates during the negotiations indicates that the parties contemplated that the total amount of liquidated damages recoverable under cl 6.0 of the LOI would act as a cap on the total amount of general damages which the defendant would be liable for in the event of a delay. In the alternative, the defendant submits that the amount of liquidated damages recoverable under cl 6.0 of the LOI ought to act as a cap on the defendant's liability as a matter of law.[note: 73] Applying the rates of liquidated damages set out in cl 6.0 of the LOI, the total sum of liquidated damages payable by the defendant in respect of its 161 days of delay would have been $8,050,000: $30,000 *per* day for the first 30 days ($900,000), $70,000 *per* day for the next 30 days ($2,100,000), and $50,000 *per* day for the remaining 101 days ($5,050,000).

56 On the other hand, the plaintiff contends that it is entitled to the full extent of the general damages that it is able to prove to the court as there are no expressed exclusions or caps (whether in the LOI or agreed between the parties) on the quantum of general damages the plaintiff can recover.[note: 74] Indeed, as I have noted at [33] above, the plaintiff suggests that cl 6.0 of the LOI indicates that the defendant had knowledge of the possible extent of the loss of net rental revenue that would be suffered by the plaintiff in the event of a one-year delay. The plaintiff, therefore, argues that its loss of net rental revenue was not too remote.[note: 75]

*My findings*

57 I am unable to accept the defendant's submission that the amount of general damages recoverable by the plaintiff should be capped by the amount of liquidated damages that the plaintiff would have been entitled to under cl 6.0 of the LOI had it not committed the various acts of prevention.

58 In my view, general damages and liquidated damages are underpinned by different considerations. General damages are intended to compensate the innocent party for the *actual* losses suffered as a result of the breach. In contrast, liquidated damages are intended to be a genuine *pre-estimate* of the *likely* losses that would be suffered in the event of a breach (see *Denka Advantech Pte Ltd and another v Seraya Energy Pte Ltd and another and other appeals* [2020] SGCA 119 at [151]–[152] and [185(b)]). Furthermore, cl 6.0 of the LOI is a contractual term which the parties had willingly agreed to be bound by in the event of a delay. Hence, there is no principled reason for capping the amount of general damages recoverable by the plaintiff in these proceedings at $8,050,000.

59 The defendant relies on the Canadian case of *J G Collins Insurance Agencies Ltd v Elsley Estate* [1978] 2 SCR 916 ("*Elsley Estate*") for the proposition that the amount of damages recoverable under

a liquidated damages clause, such as cl 6.0 of the LOI, should act as a cap on the defendant's liability to pay general damages.[note: 76] In *Elsley Estate*, the Supreme Court of Canada held that "an agreed sum payable on breach represents the maximum amount recoverable whether the sum is a penalty or a valid liquidated damages clause". *Elsley Estate* was cited in *Hudson's Building and Engineering Contracts* (Nicholas Dennys QC and Robert Clay gen eds) (Sweet & Maxwell, 14th Ed, 2020) ("*Hudson*"). The editors of *Hudson* opined that even though the liquidated damages clause in *Elsley Estate* was attacked on the ground that it was a penalty clause, *Elsley Estate* "must equally be authority for enforcing the [liquidated damages] sum as a limitation on liability in those situations where a liquidated damages clause has been invalidated by reason of Employer prevention … or Employer breach of contract" (at para 6-049). However, the editors of *Hudson* went on to acknowledge that "the point may be open and a more precise statement of its rationale in construction cases is still awaited" (at para 6-050). In the absence of any decisions by the Singapore courts following *Elsley Estate*, there is no authority binding upon this court that requires me to find that the amount of general damages recoverable must be capped at the amount of liquidated damages stipulated in cl 6.0 of the LOI.

60 In so far as the defendant contends that allowing the plaintiff to recover general damages exceeding $8,050,000 would allow the plaintiff to benefit from its own breach of contract which rendered cl 6.0 of the LOI unenforceable, this argument is unmeritorious. In this regard, I agree with the views expressed in Edwin Lee Peng Khoon, *Building Contract Law in Singapore* (LexisNexis, 3rd Ed, 2016). The author considers this argument and then goes on to say (at p 155):

> … However, it should also be noted that the employer who has caused an act of prevention would only be able to claim for damages for delay if the contractor has exceeded the reasonable time for completion. In that event, it may also be argued that the employer is not benefitting from his own breach of contract; after all, *the consequence of his breach would be that the contractor was given a reasonable time to complete the works*. *The contractor having still failed to do so, it would not be inequitable for the employer to then recover whatever he can prove to be his actual loss.*
>
> [emphasis added]

61 These observations are directly applicable to the present case. Although the plaintiff was responsible for 173 days of delay due to its acts of prevention, the defendant nevertheless exceeded the reasonable time for the completion of Biopolis 3, which was 18 months and 173 days from the commencement date of 23 July 2008 (see [26] above). The defendant is, therefore, still responsible for 161 days of delay. In these circumstances, it would not be inequitable to allow the plaintiff to recover general damages exceeding the amount of liquidated damages provided for in cl 6.0 of the LOI.

*Summary on the effect of cl 6.0 of the LOI*

62 In summary, I reject the defendant's argument that any general damages payable to the plaintiff for the delay cannot exceed the liquidated damages that the plaintiff could have obtained under cl 6.0 of the LOI had it not committed the various acts of prevention, *ie*, $8,050,000. This is because, notwithstanding the plaintiff's acts of prevention, the defendant still exceeded the reasonable time for the completion of Biopolis 3 and was responsible for 161 days of delay.

***Preliminary points on causation and apportionment***

63 Before I turn to consider each of the three heads of loss claimed by the plaintiff, I would like to

deal with some preliminary points regarding causation and the apportionment of liability between the parties. As I have explained at [10] and [26] above, the delay attributable to the plaintiff was 173 days and the delay attributable to the defendant was 161 days.

64 The plaintiff's approach is to start by calculating the total losses caused to the plaintiff by the *entire* period of delay and then apportion liability based on the respective periods of delay attributable to each party.[note: 77]

65 However, the defendant submits that the plaintiff has failed to prove that the *defendant's* delay caused its losses.[note: 78] Instead, since the plaintiff caused more than half of the delay (173 out of 334 days), the plaintiff was the dominant cause of the delay.[note: 79] The defendant raises a primary case and a secondary case on causation, which I shall elaborate on in the next few paragraphs.

*Causation*

(1) The parties' submissions

66 It is not disputed that the usual test of causation to be applied in breach of contract cases is the but-for test, under which the plaintiff must prove that the harm it suffered would not have occurred but for the defendant's delay (*Sunny Metal & Engineering Pte Ltd v Ng Khim Ming Eric* [2007] 3 SLR(R) 782 ("*Sunny Metal*") at [64]).[note: 80] The defendant contends that the plaintiff has failed to satisfy the but-for test of causation.

67 First, the defendant submits that the plaintiff must demonstrate a causal link between the *specific periods of delay attributable to the defendant* (amounting to 161 days) and the alleged losses suffered by the plaintiff.[note: 81] The defendant submits that the plaintiff has failed to do so because the plaintiff's delay was spread out and intertwined with the defendant's delay. Hence, both parties jointly contributed to the delay and neither was principally responsible. Consequently, the defendant submits that the plaintiff has failed to prove that the defendant's delay was a but-for cause of its losses (the "Defendant's Primary Case on Causation").[note: 82]

68 In the alternative, the defendant submits that since a reasonable date for the completion of Biopolis 3 was 14 July 2010 (see [26] above), the plaintiff must prove that the defendant's delay during the *specific period from 15 July 2010 to 22 December 2010* caused the plaintiff's losses. According to the defendant, the plaintiff has failed to prove this because the plaintiff asserts that its losses were caused by the entire period of delay (the "Defendant's Secondary Case on Causation").[note: 83]

69 In response to the defendant's arguments regarding causation, the plaintiff submits that there is a clear causal link between the delay and its losses.

70 With regard to the Defendant's Primary Case on Causation, the plaintiff submits that the usual but-for test of factual causation should not be applied in the present case as it would lead to an outcome that defies common sense and logic,[note: 84] *ie*, the outcome that the defendant is not liable for any of the losses suffered by the plaintiff. Instead, as the plaintiff's delay and the defendant's delay were two concurrent causes of loss that were almost equally significant, the plaintiff argues that the court should adopt the approach set out by the UK Supreme Court in *Financial Conduct Authority v Arch Insurance (UK) Ltd and others (Hiscox Action Group Intervening)* [2021] 2 WLR 123 ("*FCA v Arch Insurance*"), which the plaintiff refers to as the "modified but-for test".[note: 85]

Applying this modified but-for test, the plaintiff submits that factual causation is established because each delaying event was a discrete event capable of causing loss, and but for all the delaying events, Biopolis 3 would have secured a healthy level of pre-commitment tenants and would have enjoyed a longer monopolistic run.[note: 86]

71 Further, the plaintiff submits that the Defendant's Secondary Case on Causation is inconsistent with the Liability Judgment (CA), inconsistent with the facts and inconsistent with common sense, because it requires the court to ignore the actual periods of delay attributable to each party in assessing causation. The plaintiff contends that the Defendant's Secondary Case on Causation conflates the assessment of a reasonable time to complete (which is merely a tool for the easy computation of each party's delay) with the assessment of factual causation (which examines the actual events that occurred).[note: 87]

(2) My findings

72 In my view, the plaintiff has succeeded in establishing that its delay and the defendant's delay were an effective cause of its losses. I agree with the plaintiff's submission that the defendant cannot reasonably deny that there was a causal link between the delay and the losses suffered by the plaintiff, and in particular the plaintiff's loss of net rental revenue.[note: 88]

(A) The Defendant's Primary Case on Causation

73 It is well established that the court "approaches the question of causation on a common-sense basis" and that "[taking] the but-for test as the sole *indicia* of causation can lead one to draw absurd conclusions" (*Guay Seng Tiong Nickson v Public Prosecutor* [2016] 3 SLR 1079 at [31] and [33]). Similarly, in *Sunny Metal* at [69], the court acknowledged that the but-for test may be "insufficient to lead to a just result" in cases where it is not clear which of several possible causes was "the cause in fact of the loss". In my view, the Defendant's Primary Case on Causation involves an overly rigid application of the but-for test of causation which would lead to the absurd conclusion that the defendant is not liable for *any* of the plaintiff's losses despite having been found to be responsible for 161 out of 334 days of delay.

74 Instead, when the defendant's breach of contract is one of two concurrent causes of the plaintiff's losses, the defendant can be held liable so long as his breach was *an* effective cause of the plaintiff's losses. It is not necessary for the court to determine which cause was the *more* effective cause (see *Smile Inc Dental Surgeons Pte Ltd v OP3 International Pte Ltd* [2020] 3 SLR 1234 ("*Smile Inc*") at [25]). In *Smile Inc*, the plaintiff's failure to pay the rent timeously and the plaintiff's failure to resume business at its clinic (which was due to, among other things, the defendant's delay in completing the fitting-out works at the clinic) were both the operative causes for the plaintiff to incur certain charges. There was "nothing to indicate that one of the two causes was more efficacious than the other" (*Smile Inc* at [30]). In those circumstances, Chan Seng Onn J found that the defendant was liable for the charges incurred by the plaintiff (*Smile Inc* at [30]).

75 Although the plaintiff urged the court to adopt the approach set out by the UK Supreme Court in *FCA v Arch Insurance*, I do not think it is necessary to do so in the present case. While *FCA v Arch Insurance* discussed the issue of causation at length, this was in the context of interpreting an insurance policy to ascertain whether its clauses covered losses suffered as a result of the COVID-19 pandemic. I agree with the defendant's concern that the insurance context is different from the general contract context and that the principles of causation that are applied in insurance law may not be straightforwardly applicable in other areas of contract law.[note: 89] Nevertheless, even

without applying the approach in *FCA v Arch Insurance*, I am satisfied that the defendant's delay was an effective cause of the plaintiff's losses. As in *Smile Inc*, there is nothing to indicate that either the defendant's delay (161 days) or the plaintiff's delay (173 days) were more efficacious than the other as a cause of the plaintiff's losses. Indeed, the periods of delay caused by the parties are nearly equal, with the plaintiff's delay being only 12 (out of 334) days longer than the defendant's delay.[note: 90] In these circumstances, I am unable to agree with the defendant's submission that the plaintiff's delay was more efficacious and that it "ha[d] the effect of magnifying the loss disproportionately".[note: 91]

76 Therefore, in the circumstances of the present case, I do not think it is appropriate to adopt the defendant's granular approach of examining the impact of each specific period of delay. As the defendant recognises, the delays caused by the plaintiff were *intertwined* with the delays attributable to the defendant.[note: 92] Furthermore, both parties' experts and the court expert all applied the broad approach of calculating the losses caused by the entire period of delay before apportioning liability due to the defendant. While there may be situations where this approach could lead to unfairness (such as where the period of delay caused by the defendant is insignificant compared to the period of delay caused by the plaintiff), that concern does not arise in this case as the periods of delay caused by the parties are almost evenly balanced.

(B) The Defendant's Secondary Case on Causation

77 Further, I agree with the plaintiff's submission that the Defendant's Secondary Case on Causation should be rejected. As I have explained at [10]–[26] above, I found in the Liability Judgment (HC) that the plaintiff had committed several acts of prevention which caused a total of 173 days of delay. However, these 173 days did not run consecutively. Thus, while it was held in the Liability Judgment (CA) that the reasonable time for the defendant to complete Biopolis 3 was by 14 July 2010, it was not held that the defendant was responsible specifically for the delay from 15 July 2010 to 22 December 2010.[note: 93]

78 The Defendant's Secondary Case on Causation is not supported by [375] of the Liability Judgment (HC), which the defendant's counsel sought to rely on.[note: 94] This paragraph, as modified to reflect the findings made in the Liability Judgment (CA), stated as follows:

> It is undisputed that the Project's start date under cl 5.0 of the LOI is 23 July 2008. For the Project to be completed within reasonable time, it should have been completed by [14 July] 2010 (adding 18 months and [173] days to the Project's start date). However, the Project was only completed on 22 December 2010 …. Thus, the delay to the Project that is attributable to the defendant is [161] days (this being the difference between the new completion date of [14 July] 2010 and the date on which the Project was completed, 22 December 2010). …

79 As the wording of [375] of the Liability Judgment (HC) makes clear, it was not held that the delay attributable to the defendant was the *specific period* from 15 July 2010 to 22 December 2010. Instead, the finding made in this paragraph was that the *aggregate* period of delay attributable to the defendant was 161 days, which was derived by calculating the length of the period from 15 July 2010 to 22 December 2010. This paragraph must also be read in the context of the other findings made in the Liability Judgment (HC). In particular, it was found that the periods of delay attributable to the plaintiff were six days from 26 to 31 December 2008; 147 days from 4 January 2009 to 1 June 2009; seven days in November 2010; and 13 days in December 2010 (see [10]–[23] above). The periods of delay attributable to the defendant were interspersed between these periods of delay caused by the plaintiff. Both before and after the date of 15 July 2010, both the plaintiff and the defendant

contributed to the delay.

80 The authorities relied on by the defendant also do not support the Defendant's Secondary Case on Causation. First, the defendant cites a passage from *Hudson* at para 6-028 which states that where the right to recover liquidated damages is invalidated, the right to recover actual damages subject to proof "will operate as from the ending of a reasonable time for completion".[note: 95] Second, in *Chua Tian Chu and another v Chin Bay Ching and another* [2011] SGHC 126 at [104], the High Court stated that where liquidated damages are unavailable, "general damages may be recoverable at common law for any delay occasioned after the reasonable date for completion".[note: 96] While I agree with these statements of principle, they do not assist the defendant. The legal principle that the plaintiff is entitled to recover general damages *in respect of* the period from the reasonable date for completion to the actual date of completion does not mean that, as a matter of causation, the defendant can only be held liable for the losses caused specifically by this period of time. As a matter of fact, in the present case, the periods of delay attributable to the defendant were intertwined with the periods of delay attributable to the plaintiff.

*Apportionment*

81 Having rejected the Defendant's Primary Case on Causation, I agree with the plaintiff's submission that the losses caused by the entire period of delay should be apportioned proportionately between the plaintiff and the defendant, based on the duration of delay attributable to each party.[note: 97] The next issue is then to determine the precise proportion of liability that should be borne by the defendant. The plaintiff's expert, Mr Toh, was instructed by the plaintiff to quantify the expectation losses caused by the defendant on the basis of 161 out of *355* days of delay (*ie*, 45.35% of the total loss). This was because the plaintiff's pleaded position was that there had been 355 days of delay (from 23 January 2010 to 12 January 2011)[note: 98] and because no rental revenue could have been earned before the TOP was obtained on 12 January 2011.[note: 99] The defendant's expert, Assoc Prof Yu, initially quantified the losses based on 161 out of *334* days of delay.[note: 100] Assoc Prof Yu later stated that he was agreeable to applying Mr Toh's proportion of 161 out of 355 days instead.[note: 101]

82 In my view, as a matter of principle, the proportion of liability borne by the defendant should be based on 161 out of *334* days of delay (*ie*, 48.2% of the total losses). Although I accept that no rental revenue could have been earned until 12 January 2011, the Liability Judgment (HC) and the Liability Judgment (CA) have established that the defendant was responsible for 161 days of delay and the plaintiff was responsible for 173 days of delay, amounting to a total of 334 days of delay. Hence, it would be incorrect to apportion the defendant's liability based on 161 out of 355 days. Instead, the defendant's liability should be apportioned based on 161 out of 334 days. This would be a fair reflection of the parties' respective liabilities *vis-à-vis* the period of delay.

83 I acknowledge that the impact of 161 days of delay would necessarily be less significant than the impact of the full period of 334 days of delay. However, as I have explained, the duration of the plaintiff's delay and the defendant's delay was almost equal in this case. In a more extreme case where the defendant's delay is merely a fraction of the plaintiff's delay (for example, 20 days compared to 173 days), the defendant's delay may be found to have only a *de minimis* impact on the losses suffered by the plaintiff. For example, a delay of only 20 days may not have been significant enough to cause the loss of pre-commitment tenants. In such a case, as I have alluded to at [76] above, a straightforward apportionment may be inappropriate, or it may be that the losses for which the defendant is liable should be further discounted. Nevertheless, that is not the present case.

*Summary on causation and apportionment*

84 In summary, the defendant's delay was an effective cause of the plaintiff's losses. I reject both the Defendant's Primary Case on Causation and the Defendant's Secondary Case on Causation as the periods of delay caused by the parties are nearly equal and the delays attributable to the plaintiff were intertwined with the delays attributable to the defendant. The losses caused by the entire period of delay should be apportioned proportionately between the plaintiff and the defendant based on the duration of delay attributable to each party. Hence, the proportion of liability borne by the defendant should be based on 161 out of 334 days of delay.

***Loss of net rental revenue***

85 I turn now to the plaintiff's claim for loss of net rental revenue. There are three main issues to be addressed. First, what losses are recoverable by the plaintiff, bearing in mind the principles of remoteness of damage? Second, what is the appropriate and fair method of quantifying the plaintiff's loss of net rental revenue for the purposes of assessing the damages payable by the defendant? Third, what parameters should be adopted in quantifying the plaintiff's loss of net rental revenue? I shall address these issues in turn.

*Remoteness*

(1) The applicable law

86 In breach of contract cases, it is well established that loss will be recoverable if either of two tests is satisfied (see *Out of the Box Pte Ltd v Wanin Industries Pte Ltd* [2013] 2 SLR 363 ("*Out of the Box*") at [14]–[18], applying the English rule in *Hadley v Baxendale* (1854) 9 Exch 341 ("*Hadley v Baxendale*") as restated in *Victoria Laundry (Windsor) Ld v Newman Industries Ld; Coulson & Co Ld (Third Parties)* [1949] 2 KB 528 ("*Victoria Laundry*")):

(a) First, loss is recoverable if it flows naturally from the breach of contract, having regard to the consequences that arise naturally according to the usual course of things, or flowing from what may reasonably be supposed to be in the contemplation of both parties when they entered into the contract (the first limb of the rule in *Hadley v Baxendale*). I shall refer to this type of loss as "direct loss" and loss which does not fall within this description as "indirect loss".

(b) Second, (indirect) loss is recoverable if the contract-breaker had actual knowledge of special or extraordinary facts and circumstances which made the loss foreseeable as a likely, or at least not unlikely, result of the breach of contract (the second limb of the rule in *Hadley v Baxendale*).

87 The final question in the analysis is whether, in the light of the contract-breaker's knowledge and the circumstances in which that knowledge arose, a reasonable person in the contract-breaker's situation at the time of the contract would have considered the damages in question to be "foreseeable as a not unlikely consequence that he should be liable for" (*Out of the Box* at [47(e)]).

88 If a particular *type* of loss was reasonably foreseeable at the time of the contract (*ie*, not too remote), the conventional principle is that the contract-breaker will be held liable for the full *extent* of the loss (see *Out of the Box* at [41]). However, it must also be emphasised that the application of this rule depends greatly on the particular facts of each case. As the Court of Appeal explained in *Out of the Box* at [44]:

> … Different heads of loss may seem to be of the same type or nature and yet emerge on a proper analysis as being of quite different types. It would be simplistic and ultimately unhelpful to argue that a given head of loss is not too remote simply because it could semantically be packaged within a broader category of loss that was foreseeable by the contract breaker. …

89 This is illustrated by the facts of *Victoria Laundry*. In that case, the plaintiffs, a company providing laundering and dyeing services, purchased a boiler from the defendants. The defendants knew that the plaintiffs were launderers and dyers and wanted the boiler for use in their business. The delivery of the boiler to the plaintiffs was significantly delayed. The English Court of Appeal held that the plaintiffs could recover its loss of business profits in respect of the laundering and dyeing contracts which could be "reasonably expected". However, the plaintiffs could not recover their loss of business profits in respect of certain "particularly lucrative dyeing contracts" which the plaintiffs had hoped to enter into, and which depended on the punctual delivery of the boiler. These losses were too remote (see *Victoria Laundry* at 543). Thus, as noted in *Out of the Box* at [45], "loss of profits from the laundry business" was not treated as a single type of loss. Instead, a distinction was drawn between losses of profits from contracts which could be reasonably expected, and losses of profits from contracts which could not be reasonably expected. Thus, whether a particular head of loss (such as "loss of net revenue") is direct loss within the first limb of the rule in *Hadley v Baxendale* or indirect loss within the second limb of the rule in *Hadley v Baxendale* may depend on the circumstances (see *Singapore Telecommunications Ltd v Starhub Cable Vision Ltd* [2006] 2 SLR(R) 195 at [65]).

(2) The parties' submissions

90 The plaintiff submits that its claim for loss of net rental revenue was not too remote. According to the plaintiff, its loss of net rental revenue up to the completion of Biopolis 3 was *direct* loss because the plaintiff could not begin leasing the premises until after completion. After the completion of Biopolis 3, the plaintiff's loss of net rental revenue was *indirect* loss. However, such loss is not too remote because the defendant knew of the plaintiff's intention to claim such losses from the defendant in the event of a delay in completion.[note: 102]

91 On the other hand, the defendant submits that the plaintiff's entire claim for loss of net rental revenue is no different from a claim for loss of profits, which is a form of indirect loss. To support this argument, the defendant relies on the Court of Appeal's decision in *PH Hydraulics & Engineering Pte Ltd v Airtrust (Hong Kong) Ltd and another appeal* [2017] 2 SLR 129 ("*PH Hydraulics*"), the New South Wales Supreme Court's decision in *Multiplex Constructions Pty Ltd v Abgarus Pty Ltd* (1992) 33 NSWLR 504 ("*Multiplex Constructions*"), and the High Court's decision in *Ajit Chandrasekar Prabhu and another v Yap Beng Kooi and another* [2015] SGHC 280 ("*Ajit Chandrasekar*").[note: 103] Consequently, the defendant argues that it would only be liable for the plaintiff's loss of net rental revenue if it had actual knowledge of this loss.[note: 104]

92 The defendant submits that, while it knew that Biopolis 3 would be leased out to tenants, it was a mere management contractor and did not know the specific details of each lease, such as the rental rate, the duration of each lease and any rent-free periods, and each tenant's specific needs that were negotiated with the plaintiff.[note: 105] The defendant was not involved in any part of the leasing process between the plaintiff and its prospective tenants, and in any event, information on leases is not typically shared with a builder as it is proprietary information belonging to the developer. Further, the commercial reality is that the risks of leasing and selling a property after completion belong to the proprietor of the property, not the builder.[note: 106] In the present case, there was no evidence that the plaintiff informed the defendant that, in the event of a delay in completion, it would

claim loss of net rental revenue until stabilised occupancy was achieved from the defendant.[note: 107]

(3) My findings

93 In my view, the plaintiff's claim for loss of net rental revenue comprises two distinct types of losses. First, the loss of net rental revenue during the period of delay in 2010 ("pre-completion loss of net rental revenue"). Second, the loss of net rental revenue after the completion of Biopolis 3, resulting from the prolonged period required for Biopolis 3 to achieve stabilised occupancy following the delay ("post-completion loss of net rental revenue"). I, therefore, disagree with the defendant's submission that the plaintiff's *entire* claim for loss of net rental revenue should be characterised as indirect loss. Although the plaintiff's pre-completion loss of net rental revenue and post-completion loss of net rental revenue both fall within the broader category of "loss of net rental revenue", they are in fact different types of loss which should be analysed separately.

(A) Pre-completion loss of net rental revenue

94 It is clear that the pre-completion loss of net rental revenue suffered by the plaintiff during the period of delay is direct loss within the first limb of the rule in *Hadley v Baxendale*. At the time the parties entered into the LOI, it was within the reasonable contemplation of both parties that Biopolis 3 was a multi-tenanted commercial development which could only be leased to tenants by the plaintiff after completion. The natural consequence of the delay in completion was that the plaintiff would only be able to start leasing units in Biopolis 3 at a later date. Hence, the pre-completion loss of net rental revenue was direct loss caused by the delay. As the editors of *Hudson* observed at para 7-039:

> The measure of damage in the event of [a] delay [in completion] will be largely governed by the type of project undertaken. *If the works involve a commercial building, such as a factory or shop, it will usually be evident that delay in completion will be likely to affect or postpone the profits that the Employer is likely to earn from their use of the building.* … [I]n the case of factories, shops, flats and other obviously profit-earning projects, *the damages for loss of profit are likely to arise under the first branch of the rule [ie, the first limb of the rule in Hadley v Baxendale], as occurring naturally and in the usual course of things from the breach* …"
>
> [emphasis added]

95 The three cases relied on by the defendant do not assist it in showing that the pre-completion loss of net rental revenue is indirect loss. In *PH Hydraulics*, the plaintiff had purchased a machine (a reel drive unit) from the defendant which was to be leased to a third party. The machine malfunctioned and the plaintiff sued the defendant for breach of the sale and purchase agreement, claiming (among other things) its inability to earn revenue from renting out the machine. The Court of Appeal held that this loss of net rental revenue was not a direct loss within the reasonable contemplation of both parties, noting that there was no evidence that the third party was obliged to rent the machine for any fixed period or minimum period (*PH Hydraulics* at [155]). However, the contract at issue in *PH Hydraulics* was a sale and purchase agreement, under which the plaintiff could have purchased the machine for its own use rather than for renting to a third party. In contrast, the defendant's breach of contract in the present case was its delay in completing Biopolis 3 under a building contract between the parties. As Biopolis 3 is a commercial development which was intended to be leased to multiple tenants and from which the plaintiff could only earn rental revenue after completion, the pre-completion loss of net rental revenue flowed naturally from the delay in completion. In this regard, the defendant's reliance on *Ajit Chandrasekar* is also misplaced as the plaintiffs in that case appeared to have purchased the property as a home. Consequently, Abdullah JC

(as he then was) doubted that the loss of opportunity to rent out the property was within the contemplation of the parties or flowed in the natural course of events (*Ajit Chandrasekar* at [81]).

96 The defendant also relied on the New South Wales Supreme Court's decision in *Multiplex Constructions* for the proposition that loss of net rental revenue caused by delays in completion under large commercial construction contracts would not fall within the first limb of the rule in *Hadley v Baxendale*.[note: 108] However, I do not think the authorities establish any rule in Singapore law that loss of net rental revenue is necessarily an indirect loss which the plaintiff is only entitled to recover if the defendant has actual knowledge of the circumstances giving rise to this loss. While the defendant seeks to rely on *Robertson Quay Investment Pte Ltd v Steen Consultants Pte Ltd and another* [2008] 2 SLR(R) 623 ("*Robertson Quay Investment*"), which cited *Multiplex Constructions*, the Court of Appeal in that case noted that "loss of profits or rental would not *necessarily* be recoverable under the first limb of [the rule in *Hadley v Baxendale*]" [emphasis added] (at [89]). Indeed, on the facts of that case, the Court of Appeal held that additional interest incurred on construction loans as a result of a delay in the completion of a construction project did fall within the first limb of the rule in *Hadley v Baxendale* because the parties to large commercial construction projects "must be imputed with the knowledge that a delay in completion would certainly give rise to additional financing costs" (*Robertson Quay Investment* at [91] and [94]). In the circumstances of the present case, it is clear that the plaintiff's pre-completion loss of net rental revenue (which was suffered during the period of delay) was a natural consequence of the delay. The defendant knew that Biopolis 3 was built to be leased out to multiple tenants and that any delay in completion would result in loss of net rental revenue. It is, therefore, direct loss which is not too remote for the plaintiff to recover.

(B) Post-completion loss of net rental revenue

97 However, as the plaintiff acknowledges,[note: 109] its post-completion loss of net rental revenue is indirect loss. For this type of loss to be recoverable, the plaintiff must show that the defendant had actual knowledge that the delay in completion might cause the plaintiff to suffer a loss of net rental revenue *even after completion* because it would prolong the time needed for Biopolis 3 to achieve stabilised occupancy. This has not been shown.

98 The plaintiff argues that the defendant was told that the liquidated damages rates agreed upon in cl 6.0 of the LOI were meant to compensate the plaintiff for its loss of net rental revenue in the event of a delay, and that the plaintiff and JIHPL had prepared projections of Biopolis 3's future rental revenue stream (see [33] above).[note: 110] However, neither of these arguments assists the plaintiff in showing that the defendant had actual knowledge that the plaintiff would incur a further loss of net rental revenue in the period from Biopolis 3's completion until Biopolis 3 achieved stabilised occupancy. The plaintiff has not adduced any evidence that the defendant had such knowledge. Indeed, Mr Lawrence Leow Chin Hin, the plaintiff's director ("Mr Leow"), testified that when cl 6.0 of the LOI was being discussed, he was focusing on liquidated damages and did not have in mind the general damages that the plaintiff would seek to claim from the defendant in the event of a delay in completion.[note: 111] Although Mr Leow claimed that the liquidated damages rates had been computed based partly on the plaintiff's estimations of the anticipated gross rental revenue that it would earn from leasing Biopolis 3 after completion",[note: 112] he conceded during his cross-examination that none of the contemporaneous documentary evidence showed that the plaintiff had informed the defendant that these liquidated damages rates were an estimation of the plaintiff's loss of rental revenue in the event of a delay in completion.[note: 113]

99 The plaintiff also relied on the defendant's insertion of a liquidated damages clause identical to

cl 6.0 of the LOI in its own trade contracts. According to the plaintiff, this shows that the defendant was well aware of the quantum of loss of rental revenue that the plaintiff might suffer in the event of a delay and sought to pass this risk on to its own trade contractors.[note: 114] However, this is a *non sequitur* as the defendant's adoption of the same liquidated damages rates in its trade contracts does not indicate that it had actual knowledge that these rates represented the plaintiff's likely loss of rental revenue in the event of a delay.

100 Finally, the plaintiff argued that the defendant must have known the expected rental revenues from Biopolis 3 over the years in order to estimate the valuation of Biopolis 3 for the purposes of obtaining funding from the banks for the construction of Biopolis 3.[note: 115] However, in my view, the fact that the defendant was involved in estimating the valuation of Biopolis 3 does not show that it had actual knowledge that a delay in completion might cause the plaintiff to suffer a loss of rental revenue even after completion.

101 In these circumstances, the post-completion loss of net rental revenue incurred by the plaintiff was not foreseeable by the defendant as a likely, or even not unlikely, result of the delay.

102 Therefore, the plaintiff is entitled to recover the pre-completion loss of net rental revenue that it suffered during the period of delay in 2010. However, the post-completion loss of net rental revenue that the plaintiff suffered after the completion of Biopolis 3 is too remote to be recoverable.

*The appropriate and fair method of quantifying the plaintiff's loss of net rental revenue*

103 As I have found that the plaintiff's post-completion loss of net rental revenue is too remote to be recoverable as a matter of law, the appropriate method of quantifying the plaintiff's loss of net rental revenue should focus on the loss of net rental revenue in respect of the period *before* the completion of Biopolis 3, *ie*, during the period of delay in 2010. The experts agreed that the legal questions of causation, remoteness and mitigation were for the court to determine. Hence, their proposed methods of quantifying the plaintiff's loss of net rental revenue are premised on the assumption that the requirements of causation, remoteness and mitigation have all been established in the plaintiff's favour.[note: 116]

104 The parties do not agree on the appropriate method of quantifying the plaintiff's loss of net rental revenue. As I have alluded to at [29]–[31] above, the plaintiff submits that the multi-year model should be used to quantify its loss of net rental revenue. This is what the plaintiff's primary expert, Mr Toh, described as the "yardstick method" in his first expert report. I prefer to call it the multi-year model as this emphasises the key difference between this model and the single-year model in terms of quantifying the plaintiff's loss of net rental revenue. The defendant's expert, Assoc Prof Yu, also used the multi-year model, which he called the "financial model".[note: 117] All the experts who were asked to consider the single-year model, except for Mr Toh and Dr Woo, agree that the single-year model can be an alternative approach to the calculation of loss of net rental revenue suffered by the plaintiff. Mr Toh, being an accountant from EY Corporate Advisors Pte Ltd,[note: 118] opined that the single-year model was not suitable although he acknowledged that the multi-year model could give rise to an unfair and inequitable result.[note: 119] Dr Woo did not expressly accept the single-year model although she acknowledged the possibility of unfair and inequitable outcomes under the multi-year model.[note: 120] I shall elaborate further on the views of the experts below.

105 At the beginning of the trial, I asked the parties to consider whether the single-year model could be used to quantify the plaintiff's loss of net rental revenue instead of the multi-year

model.[note: 121] Both parties' counsel raised no objection to the court considering this alternative approach. During the parties' closing oral submissions, the plaintiff's counsel agreed that the court was at liberty to consider the single-year model and that it was up to the court to decide whether the multi-year model or the single-year model was a fairer and more equitable method.[note: 122] The defendant's counsel also agreed that the court could consider the single-year model to arrive at a fair outcome if it deems appropriate. During the trial, I also asked each of the experts if the single-year model was a possible approach. While the single-year model was not discussed by the experts in their original reports, some of the experts agreed that this was a possible method of quantifying the plaintiff's loss of net rental revenue. During the trial, the court expert, Assoc Prof Tay, said that while the multi-year model was his preferred method, both the single-year model and the multi-year model were "legitimate methods" of computing the loss of net rental revenue.[note: 123] The defendant's expert, Assoc Prof Yu, agreed that compared to the multi-year model, the single-year model would involve fewer assumptions and complications in arriving at a more precise quantification of the plaintiff's expectation loss for the year of delay.[note: 124] He explained that he had considered using the single-year model in his original report, but ultimately did not do so because his report was responsive to the plaintiff's statement of claim, which had broadly framed the plaintiff's claim for loss of net rental revenue based on the multi-year model.[note: 125] According to the defendant, Assoc Prof Yu was instructed to examine the plaintiff's pleaded multi-year model and he did so.[note: 126] The strongest objection to the single-year model came from Mr Toh, who opined that the multi-year model was the *only* method of ascertaining the plaintiff's loss of net rental revenue in this case.[note: 127] However, this view seemed to be founded on the standards applicable in accounting and commercial valuations.[note: 128] While accounting and financial standards may be instructive, my overarching considerations in assessing damages in the present case are the principles of fairness and equity.

106 I am well aware of the general principle that, *ex hypothesi*, expert evidence is outside the learning of the court (*Halsbury's Laws of Singapore* vol 10 (Butterworths Asia, 2000) at para 120.257, cited at *Saeng-Un Udom v Public Prosecutor* [2001] 2 SLR(R) 1 at [26]). A judge is not entitled to substitute his own views for those of an uncontradicted expert (*Sakthivel Punithavathi v Public Prosecutor* [2007] 2 SLR(R) 983 at [76]). Where there is conflicting expert evidence, the judge may elect between the different experts' views or reject them all, but cannot adopt a third theory of his own (*Tengku Jonaris Badlishah v Public Prosecutor* [1999] 1 SLR(R) 800 at [37]). However, the multi-year model proposed by Mr Toh is contentious and Assoc Prof Tay acknowledged that the single-year model was also a legitimate method of computing the plaintiff's loss of net rental revenue for the purposes of the present proceedings. In any event, the court's role in these proceedings is not to conduct an accounting exercise. The experts' opinions on the quantification of the plaintiff's loss of net rental revenue are not determinative of the *legal* question of the appropriate quantum of damages to award the plaintiff in this case, which I must ultimately decide. Indeed, in this regard, the experts should not "usurp the function of the court" (see *The "H156"* [1999] 2 SLR(R) 419 at [27]).

107 With this in mind, I shall now consider whether the multi-year model or the single-year model is the more appropriate and fairer method of quantifying the plaintiff's loss of net rental revenue.

(1) Overview of the multi-year model and the single-year model

108 The multi-year model essentially involves comparing the net rental revenue that the plaintiff *would have* earned if the delay had not occurred (the "No-Delay Scenario") with the net rental revenue that the plaintiff either *did* earn or *should have* earned in view of the delay (the "Delay Scenario"). The difference between the net rental revenue in the No-Delay Scenario and the Delay

Scenario is, *prima facie*, the quantum of the plaintiff's expectation loss.[note: 129] As the name suggests, the multi-year model requires the court to compare the net rental revenue earned in these two scenarios over multiple years, beginning from the date on which Biopolis 3 ought to have been completed (*ie*, 22 January 2010) to the date on which the economic impact of the delay on the plaintiff ceased.[note: 130] In the present case, the plaintiff submits that the economic impact of the delay ceased when Biopolis 3 reached stabilised occupancy in December 2017, *ie*, a period of six years and 11 months from its completion in January 2011, as this would be when the plaintiff achieved a customary level of operations.[note: 131]

109 In contrast to the multi-year model, the single-year model focuses on the loss of net rental revenue suffered by the plaintiff during the period of delay itself (*ie*, from 22 January 2010 to 22 December 2010). Under the single-year model, the loss of net rental revenue is calculated by multiplying (a) the first-year occupancy rate which Biopolis 3 would have achieved in 2010 if the delay had not occurred, by (b) the monthly rental rate in 2010, and finally by (c) Biopolis 3's Net Lettable Area ("NLA"). The loss of *net* rental revenue is then derived by applying the appropriate net revenue margin to deduct the expenses which the plaintiff would have had to incur in order to earn its gross rental revenue.

(2) Evaluation of the multi-year model

110 The plaintiff submits that the multi-year model is the more accurate method for assessing its loss of net rental revenue as it is used by industry experts, it is fair to both parties and it allows for realistic comparisons to be made with other developments.[note: 132] The plaintiff contends that the multi-year model is more appropriate than the single-year model because it accounts for the nature of Biopolis 3 as a specialised multi-tenanted development built for the BMS R&D industry, in which tenants typically enter into multi-year leases; the nature of the plaintiff's leasing business, in which commercial leases are entered into for a period of time; and the valuation norms adopted by the real estate industry.[note: 133] Similar observations were made by Assoc Prof Tay.[note: 134] Similarly, Mr Toh opines that since the revenue for a single lease transaction for Biopolis 3 is generated over a period of time, any delay to the completion of Biopolis 3 would result in the plaintiff losing multiple years' worth of net rental revenue. Mr Toh opined that it is reasonable and logical that damages arising out of the delay in completion be assessed over a period of time.[note: 135] The plaintiff argues that the single-year model undercompensates it by ignoring the net rental revenue that could have been earned by the plaintiff after the period of delay, *ie*, after the completion of Biopolis 3.[note: 136]

111 I accept that the multi-year model is a valuable tool for the purposes of accounting, financial planning and real estate valuation. However, in my view, the multi-year model suffers from several shortcomings which may not satisfy the fundamental and cardinal pillar of fairness and equity in the present assessment of damages proceedings. The court's task in these proceedings is to determine the quantum of losses which the defendant can *fairly* be held liable for as a result of the delay, bearing in mind the legal principles of causation, remoteness and mitigation. As I have explained at [105] above, although accounting and financial standards are instructive, my overarching considerations are the principles of fairness and equity. Thus, while the plaintiff emphasises that the nature of Biopolis 3 is such that it earns rental revenue over several years,[note: 137] this does not necessarily render it fair for the defendant to be held liable for the plaintiff's loss of net rental revenue over several years in the multi-year model.

(A) Speculative and dependent on a multitude of variables

112 The first shortcoming of the multi-year model is that it is highly speculative and it depends on a multitude of variables which by themselves are uncertain and subjective, and each of which can be endlessly contested. While some degree of uncertainty is inevitable in any assessment of expectation losses, this is compounded in the multi-year model because it involves projecting occupancy rates, rental rates and net revenue margins several years into the future. This magnifies the effect of each assumption which is nebulous in the multi-year model. The number of years to be taken into account (*ie*, the alleged loss period) depends, in turn, on an estimate of the stabilised occupancy level for Biopolis 3 and the time taken to reach that level of occupancy. The parties disagree on each and every one of these variables. This is inherent in the multi-year model which can lead to several different outcomes.

113 To illustrate this point, I note that the calculations derived from the application of the multi-year model by the plaintiff's expert (Mr Toh), the defendant's expert (Assoc Prof Yu) and the court expert (Assoc Prof Tay) are vastly different. I shall set out a simplified version of each expert's analysis here to demonstrate this.

(a) Adopting a projected starting occupancy rate of 35% for 2010,[note: 138] a stabilised occupancy level of 90%,[note: 139] a loss period of seven and a half years (from January 2010 to 2017),[note: 140] projected monthly rental rates ranging from $3.90 to $5.61 *per* sq ft (inclusive of service charges)[note: 141] and projected revenue margins ranging from 49.3% to 55.9%,[note: 142] Mr Toh arrived at a figure of $12,096,391 representing the loss of net rental revenue (apportioned for the defendant's delay) in his primary calculations.[note: 143]

(b) In contrast, Assoc Prof Yu applied a projected starting occupancy rate of 25% for January 2010, a stabilised occupancy level of 85%, a loss period of four years (from January 2010 to January 2014), projected monthly rental rates ranging from $3.75 to $4.95 *per* sq ft (inclusive of service charges) and a projected revenue margin of 85%. Assoc Prof Yu arrived at a figure of $362,183.83.[note: 144]

(c) In his fourth expert report, Assoc Prof Tay applied a projected starting occupancy rate of 30% for 2010, a stabilised occupancy level of 85% (in 2014), a loss period of five years, projected monthly rental rates ranging from $5.02 to $5.69 *per* sq ft (inclusive of service charges) and a projected revenue margin of 60%. Assoc Prof Tay arrived at a figure of $8,837,506.[note: 145]

114 As can be seen, Mr Toh's calculations under the multi-year model are 1.37 times of Assoc Prof Tay's and *33.4 times* of Assoc Prof Yu's. It is inevitable that there will be some variation, even very significant variation, between the experts' calculations due to the different parameters used. However, the sheer size of the difference between Mr Toh's and Assoc Prof Yu's calculations demonstrates the uncertainty and variability of the multi-year model.

115 The plaintiff's expert, Mr Toh, applied a discount of 8% to take into account the uncertainty in the cash flows for Biopolis 3 over time and to account for the risks of Biopolis 3 not achieving its revenue projections. The plaintiff submits that this discount rate "covers all risks inherent [in] the loss of a chance to earn rental revenue" and that the multi-year model should thus be adopted over the single-year model.[note: 146] I shall consider the issue of the appropriate discount rate in more detail at [302]–[306] below. However, at this juncture, I wish to state that I agree with the defendant's submission that this discount for project risk does not adequately account for the inherently

speculative and variable nature of the multi-year model.[note: 147] During his cross-examination, Mr Toh acknowledged that the discount rate of 8% would not reflect the uncertainty in relation to the period of loss, *ie*, the period required for Biopolis 3 to achieve stabilised occupancy under the multi-year model.[note: 148] Further, Mr Toh prepared six different scenarios under the multi-year model, each based on different parameters, yet applied the same discount rate of 8% across all of them.[note: 149] When Assoc Prof Tay was questioned on this, he agreed that the 8% discount rate did not account for the uncertainty of the period required to achieve stabilised occupancy in the multi-year model.[note: 150]

(B) Factors outside the defendant's control

116 The second shortcoming of the multi-year model, which relates to its first shortcoming, is that it depends primarily on variables that are outside the defendant's control. In particular, it depends on the stabilised occupancy level that Biopolis 3 would ultimately have been able to achieve and its occupancy rates in each year leading up to stabilised occupancy. The determination of the stabilised occupancy for Biopolis 3 is critical in the multi-year model.

117 Stabilised occupancy, as defined at [30(c)] above, simply means the occupancy level that is stable and sustainable with the proper marketing, management and maintenance. The defendant has no control over what levels of occupancy are stable and sustainable for Biopolis 3. As the definition of stabilised occupancy itself suggests, the stabilised occupancy level hinges on marketing, pricing strategy, management and maintenance. All of these factors are within the *plaintiff's* complete control and the defendant had no inputs or influence over them. As the defendant rightly points out, the concept of stabilised occupancy is inherently problematic because the occupancy rate of a building could be stabilised at 100%, 50%, 0% or anywhere in between, depending on factors such as the rental rates for the building.[note: 151] Stabilised occupancy, therefore, does not provide a principled basis for quantifying the loss of net rental revenue for which the defendant should be held liable.

118 A similar problem arises in relation to Biopolis 3's occupancy rates in each year leading up to stabilised occupancy, *ie*, its occupancy growth trajectory. Biopolis 3's first-year occupancy rate in 2010 was within the defendant's control in so far as Biopolis 3 could not take on tenants during the period of the delay. However, Biopolis 3's occupancy rates in *subsequent* years would depend on factors such as the plaintiff's pricing strategy and marketing strategy. Once Biopolis 3 was completed and handed over to the plaintiff, the defendant no longer had any control over the occupancy rates Biopolis 3 could subsequently achieve.

119 The plaintiff submits that this concern about factors beyond the defendant's control can be addressed by using parameters that are in line with market expectations, such as market rental rates, market occupancy rates and a reasonable time for reaching stabilised occupancy. Such parameters would be fair and reasonable.[note: 152] However, I disagree. Even if the parameters themselves are fair and reasonable estimates of what the plaintiff could have achieved, this does not address the concern that the defendant no longer had any control over Biopolis 3's rental rates, occupancy rates and time taken to achieve stabilised occupancy after its completion. I agree with the defendant's submission that in view of the inverse relationship between the rental rate and the occupancy rate for a property, there were at least two basic pricing strategies the plaintiff could adopt. First, the plaintiff could increase the occupancy rate as fast as possible by charging the lowest rent in the market (with the lower revenue due to the low rental rates being offset by the high amount of revenue due to the higher occupancy rates). Alternatively, the plaintiff could charge higher rental rates and increase the occupancy rate more slowly (with the lower revenue due to the lower

occupancy rate being offset by the higher amount of revenue due to the higher rental rates).[note: 153] The choice between these two strategies lay with the plaintiff, who could exert some control over the occupancy rates achieved by Biopolis 3 by adjusting the rental rates that it was willing to offer and accept.[note: 154]

120 Hence, even if market parameters are used, the multi-year model still yields a quantum of loss that depends on factors that are completely beyond the defendant's control. These factors operate long after the period of delay caused by the defendant. Therefore, there is serious doubt regarding the fairness of the multi-year model in quantifying the loss for which the defendant can fairly be held liable for as a result of the delay.

(C) Possibility of illogical and inequitable outcomes

121 The third shortcoming of the multi-year model is that it is capable of yielding illogical and plainly inequitable outcomes, even for a party in the plaintiff's position (*ie*, the "innocent" party in a breach of contract case). This stems from the fact that the multi-year model quantifies the loss suffered by the plaintiff based on subtracting the net rental revenue earned in the Delay Scenario ("*x*") from the net rental revenue earned in the No-Delay Scenario ("*y*"). In cases such as the present, the difference between the two figures (*x*–*y*) yields a positive figure, reflecting the fact that the plaintiff would have earned more net rental revenue if the delay had not occurred. However, it is also conceptually possible for the difference between the two figures to yield a *negative* figure.

122 This can be illustrated with a hypothetical example. A building contractor has caused a one-year delay in the completion of a building, from January 2020 (the original completion date) to January 2021 (the actual completion date). In a Delay Scenario, if the demand for unit space in the building is highly exuberant and the marketing and pricing strategy are attractive to the tenants, stabilised occupancy of 90% could, possibly, be reached in the very first year of the building's operation (*ie*, by the end of 2021). For a No-Delay scenario, assuming the marketing and pricing strategy are unattractive to the tenants, the building may take four years to reach stabilised occupancy of 90% in 2024. Therefore, the net rental revenue for a Delay Scenario will be higher than a Non-Delay Scenario. In other words, the property developer will earn more in a Delay Scenario than in a No-Delay Scenario. Hence, he suffers no loss. This is illogical in principle because it suggests that the contractor is not liable for *any* loss of net rental revenue. In this example, the contractor has undoubtedly caused the property developer to suffer a loss of net rental revenue for the year of delay itself (*ie*, 2020) since no rental revenue *at all* could be earned during this period. The multi-year model, therefore, can potentially yield both illogical and inequitable outcomes if it is applied universally.

123 This difficulty is exacerbated by the fact that the outcomes yielded by the multi-year model may depend entirely on situational contingencies that are beyond the control of both the building contractor and the property developer. For example, demand for unit space in the building could be determined by prevailing economic conditions, such as the GFC. Furthermore, the outcomes yielded by the multi-year model could even run counter to the principle that the innocent party should take all reasonable steps to mitigate its loss. For example, if the property developer made special efforts during the period of delay to actively promote the building in order to counteract the impact of the delay, this could enable the building to achieve an even higher occupancy rate, and therefore an even higher amount of net rental revenue, in the Delay Scenario. In effect, this would penalise the industrious property developer for trying to make the best out of a bad situation.

124 The facts of this hypothetical example are, of course, different from the facts of the present

case. As a matter of fact, the plaintiff earned less net rental revenue from Biopolis 3 in the Delay Situation than it would have in the No-Delay Situation. Therefore, in this particular case, the difference between the two figures (*x*–*y*) is positive. However, as a matter of principle, the possibility of such illogical and inequitable outcomes undermines the robustness of the multi-year model as a fair and equitable measure of the plaintiff's loss of net rental revenue.

(D) Assessment of the multi-year model

125 Therefore, while I accept the experts' view that the multi-year model is a valuable accounting and financial planning tool because it reflects the multi-year nature of real estate projects and leases, I do not accept that it is a fair and equitable method of quantifying the plaintiff's loss of net rental revenue in the present assessment of damages proceedings.

(3) Preferred method – the single-year model

126 In contrast to the multi-year model, the single-year model is much more straightforward and has a direct nexus to the loss of net rental revenue for 2010. This was expressly acknowledged by Assoc Prof Yu.[note: 155] Thus, there is no issue of remoteness of damage. It also does not require the court to assess the projection of variables into the future up to the time when stabilised occupancy is achieved, such as yearly occupancy rates, rental rates and net revenue margins several years into the future. As Assoc Prof Yu observed, the variability in these projections under the multi-year model would lead to "a lot of different permutations in terms of [the] calculations of the rental loss as a result of the delay".[note: 156] This is illustrated by the experts giving different opinions on the parameters to be used over the years up to the time the plaintiff achieved stabilised occupancy in the multi-year model. In contrast, under the single-year model, "[a]ny reliance on assumptions and estimations about projected occupancies and rental rates is very much reduced", and the "scope of disagreements on the variables [is] also reduced".[note: 157] The single-year model depends on only two main variables: (a) the first-year occupancy rate which Biopolis 3 would have achieved in 2010 if the delay had not occurred, and (b) the monthly rental rate over the period of delay.

127 Further, the single-year model focuses directly on the loss of net rental revenue suffered by the plaintiff during the period of delay. As I have explained at [93]–[102] above, the plaintiff is only entitled to recover the pre-completion loss of net rental revenue that it suffered during the period of delay in 2010, as the post-completion loss of net rental revenue after the completion of Biopolis 3 is too remote to be recoverable. Thus, the plaintiff's claim for loss of net rental revenue based on the multi-year model will infringe the principles on remoteness of damage. On the other hand, the principles of remoteness and mitigation are built into the single-year model. The single-year model also avoids the possibility of illogical and inequitable outcomes such as that illustrated at [121]–[123] above. In the single-year model there is no requirement to compare the No-Delay Scenario against the Delay Scenario. The emphasis is strictly on the losses caused to the plaintiff in the year of delay, *ie*, 2010. Thereafter, the losses are apportioned to the 161 days of delay which were attributable to the defendant. In that sense, the single-year model would always yield a positive figure.

128 Therefore, in my view, the single-year model provides the fairest and most appropriate method of quantifying the plaintiff's loss of net rental revenue for the purposes of the present proceedings.

129 The plaintiff submits that if the single-year model is to be applied, the plaintiff's loss of net rental revenue should be quantified based on the *stabilised* occupancy level that Biopolis 3 would have achieved, and not its projected first-year occupancy rate for 2010.[note: 158] I shall refer to this as the "modified single-year model". According to the plaintiff, this is because the delay caused the

plaintiff to reach stabilised occupancy one year later. Therefore, it effectively deprived the plaintiff of one year (out of its 30-year lease with JTC Corporation) during which it could have earned rental revenue at stabilised occupancy. The plaintiff explains that regardless of how long it would take Biopolis 3 to reach stabilised occupancy, the loss of net rental revenue would be close to one year's rental revenue at stabilised occupancy.[note: 159] Hence, the plaintiff argues that the modified single-year model is necessary to mitigate the unfairness of the single-year model[note: 160] by aligning its outcomes more closely with those under the multi-year model.[note: 161] I disagree. As I have explained at [117] above, the concept of stabilised occupancy is problematic as a basis for the assessment of damages as the defendant has no control over what levels of occupancy are stable and sustainable for Biopolis 3. Instead, the level of stabilised occupancy depends on the *plaintiff's* marketing, management and maintenance of Biopolis 3. When the plaintiff's counsel asked Assoc Prof Tay to comment on the modified single-year model during the trial, he indicated that he was "very uneasy" about this approach because it "probably [did not] bear any semblance to reality".[note: 162] The other experts were not asked to comment on the viability of the modified single-year model during the trial. Hence, I am of the view that it would not be appropriate to adopt the modified single-year model in the present case.

130 With the above in mind, I turn now to the application of the single-year model to the facts of this case.

*Application of the single-year model*

131 In the single-year model, the formula for calculating the plaintiff's loss of net rental revenue for the year 2010 is as follows:

(First-year occupancy rate) × NLA

×

(applicable monthly rental rate) × (number of months)

×

(net revenue margin)

132 It is undisputed that the NLA for Biopolis 3 is 357,154 sq ft.[note: 163] However, the parties disagree on the appropriate parameters to be adopted in respect of the other four variables:

(a) the first-year occupancy rate that Biopolis 3 would have achieved in 2010 if there had been no delay in completion;

(b) the monthly rental rate(s) for 2010;

(c) the number of months that should be taken into account, bearing in mind the rent-free fitting-out periods that may have been offered to tenants; and

(d) the appropriate net revenue margin to be applied to the gross rental revenue to derive the net rental revenue, to account for the expenses that the plaintiff would have had to incur to earn its rental revenue.

133 I shall consider each of these variables in turn.

(1) First-year occupancy rate for 2010

(A) The experts' views

*(I) Dr Woo – 54.2%*

134 The plaintiff submits that if the modified single-year model is not applied, a first-year occupancy rate of 54.2% should be used.[note: 164] This is based on Dr Woo's view that the first-year occupancy rate of Biopolis 3 for 2010 would have been 54.2%. This is the average of three figures as explained below, *ie*, 50%, 70% and 42.5%.

135 First, the first-year occupancy rate achieved by Chromos, a multi-tenanted BMS building in Biopolis 1. JTC Corporation's Annual Report for the financial year 2003 stated that Chromos's first major private sector tenant was the Novartis Institute for Tropical Diseases and that it occupied four floors of Chromos.[note: 165] Chromos has eight above-ground floors and was completed in 2003.[note: 166] As no information was available on the floor area taken up by Chromos's other tenants, Dr Woo estimated that Chromos's first-year occupancy rate was at least 50%.[note: 167]

136 Second, the first-year occupancy rate achieved by Biopolis 2, which is also a multi-tenanted business park development, and which Dr Woo assessed to be the most comparable development to Biopolis 3 due to its similar positioning and locality.[note: 168] Biopolis 2 was completed in October 2006. Upon the completion of Biopolis 2, Ascendas (its developer) published a press release dated 30 October 2006 which stated that it "[was] actively engaging prospective tenants and [was] confident of achieving 70% occupancy very shortly".[note: 169] This is corroborated by an article submitted to the *Journal of Commercial Biotechnology* by the Executive Director of the Economic Development Board ("EDB")'s Biomedical Sciences Cluster on 20 November 2007. The article stated that Biopolis 2 was "now over 80% occupied".[note: 170] On this basis, Dr Woo estimated that the first-year occupancy rate for Biopolis 2 was likely to be 70% (adopting the more conservative of the two figures).[note: 171]

137 Third, the average of the projected occupancy rates that would have been achieved by Biopolis 3 in the No-Delay Scenario at the start of 2010 and the start of 2011, which Dr Woo estimated to be 35.7% and 49.3% respectively. I shall elaborate on how Dr Woo derived these two figures below. Assuming that occupancy growth over the course of 2010 was linear, this would yield an average first-year occupancy rate for Biopolis 3 of 42.5%, *ie*, the average of 35.7% and 49.3%, for the *whole* of 2010.[note: 172] This is her explanation:

(a) In their joint expert report, Dr Woo and Mr Yeo projected that Biopolis 3 would have achieved a starting occupancy rate of 35.7% at the start of 2010. This is because a total of 127,490 sq ft of space in Biopolis 3 (*ie*, 35.7% of its total NLA) was under consideration by the five pre-commitment tenants.[note: 173] This comprised 30,000 sq ft for ICES, 6,566 sq ft for Abbott, 16,146 sq ft for NTU, 14,500 sq ft for PetNet and 60,278 sq ft for Philip Morris. Based on

their review of the volume and nature of the exchanges between the plaintiff and the five pre-commitment tenants, Dr Woo and Mr Yeo assessed that the negotiations between the plaintiff and these pre-commitment tenants were at an advanced stage and that there was a strong likelihood that the plaintiff would have secured all five pre-commitment tenants for occupation in January 2010 if the delay had not occurred.[note: 174]

(b) As for the projected occupancy rate of 49.3% at the start of 2011, Dr Woo explained in her affidavit that she had estimated that the stabilised occupancy level for Biopolis 3 was 90%. Biopolis 3 would have taken four years to reach this occupancy level if there was no delay. Dr Woo then adopted a straight-line projection of occupancy growth from 35.7% in 2010 to 90% in 2014 to estimate the occupancy rates in each of the intervening years. Applying this method, Dr Woo projected that Biopolis 3 would have achieved an occupancy rate of 49.3% at the start of 2011.[note: 175]

138 Taking the average of the three figures in (a), (b) and (c) above, Dr Woo concluded that Biopolis 3 would have achieved a first-year occupancy rate of 54.2% in 2010 if there had been no delay in completion.[note: 176]

139 I pause here to note that Dr Woo opined that a fourth figure would be relevant: the first-year occupancy rates of business park developments that are less closely comparable to Biopolis 3 (compared to Biopolis 2), but which nonetheless targeted organisations engaging in R&D in biomedicine, biotechnology, life sciences and related fields, and those developments with tenants engaging in R&D or high-technology manufacturing in those fields. Dr Woo identified four such developments: the Capricorn, the Gemini and the Kendall at Singapore Science Park ("Science Park"), and the Synergy at International Business Park.[note: 177] However, she did not include these rates in her analysis of Biopolis 3's likely first-year occupancy rate because there was no available first-year occupancy data for these developments.[note: 178]

*(II) Assoc Prof Yu – 25%*

140 Assoc Prof Yu opined that the first-year occupancy rate of Biopolis 3 for 2010 would have been only 25%. He gave three reasons for this:[note: 179]

(a) First, Assoc Prof Yu observed that the average occupancy rate of business parks declined in 2010 as a result of the GFC, and that occupancy rates reached a low in 2010 before improving in 2011 as general economic conditions improved. He noted that business park occupancy levels tend to lag behind the economic cycle, typically because of the time required for the construction of the property.[note: 180] He suggested that 25% would be a reasonable occupancy rate in January 2010 for a new project completed in the aftermath of the GFC.

(b) Second, CleanTech One, another multi-tenanted business park that was completed in October 2010, achieved only 50% occupancy in its first year. As a more specialised facility, Biopolis 3 would at best be able to achieve a first-year occupancy rate of 25% in January 2010.

(c) Third, landlords are usually compelled to provide long rent-free fitting-out periods of up to six months to attract tenants.

141 Assoc Prof Yu also alluded to "major new supply" as a factor making it unlikely that Biopolis 3 would achieve a first-year occupancy rate of 30% or more.[note: 181] However, when questioned on

what this referred to, Assoc Prof Yu clarified that there was no new supply in respect of BMS R&D buildings in 2010.[note: 182] He agreed that CleanTech One was not a BMS building.[note: 183]

142 During the trial, Assoc Prof Yu was asked why he did not take into consideration the five pre-commitment tenants in ascertaining the first-year occupancy rate for Biopolis 3. He initially explained that these five pre-commitment tenants were relevant in ascertaining the demand for business park space generally, but not relevant in ascertaining demand for space in Biopolis 3 specifically,[note: 184] because the tenancies of these tenants were still under negotiation.[note: 185] However, Assoc Prof Yu subsequently agreed that the five pre-commitment tenants were relevant in ascertaining demand for space in Biopolis 3 since Biopolis 3 was part of the "basket" of business park space.[note: 186]

*(III) Assoc Prof Tay – 40%*

143 Assoc Prof Tay took the view that the first-year occupancy rate for Biopolis 3 for 2010 would have been 40%.[note: 187] He arrived at this figure by applying a two-step analysis.

144 First, he determined the weighted average occupancy rate based on comparable buildings. He identified three comparables: the Capricorn (which had achieved 69% occupancy within just over a year after completion in December 2001), Biopolis 2 (which had achieved 100% occupancy within five years of its completion in 2006) and Biopolis 3 (which actually achieved approximately 12.9% occupancy in its first year of operation in 2011, *ie*, in the Delay Scenario). He assessed the Capricorn to be the weakest comparable and gave it a weight of 0.2 because its occupancy data is dated and the Capricorn was not specifically built for BMS tenants. He assessed Biopolis 2 to be a "medium strength" comparable and gave it a weight of 0.3 because there was a five-year gap in the data and no data on its actual first-year occupancy in 2006 was available. He assessed Biopolis 3's actual occupancy rate in late 2011 to be the strongest comparable and gave it a weight of 0.5 as it came closest chronologically to what Biopolis 3's occupancy in 2010 would have been in the No-Delay Scenario. Based on this, Assoc Prof Tay derived a weighted average occupancy rate of 50%.[note: 188]

145 Next, Assoc Prof Tay reduced the weighted average occupancy rate of 50% to 40%, to reflect the volatility of the BMS investment sector. He also cited Singstat data indicating that there was a sharp drop in fixed asset investments (*ie*, plant and machinery) in the BMS manufacturing sector in 2010 and 2011, before a recovery from 2012 onwards.[note: 189] Fixed asset investment refers to a company's incremental capital investment in facilities, equipment and machinery.[note: 190] While Assoc Prof Tay acknowledged that BMS manufacturing investment is not directly correlated with BMS R&D expenditure, he opined that it was still a ground for applying a degree of conservatism in the estimate of Biopolis 3's first-year occupancy rate.[note: 191]

(B) My findings

146 Before I consider each expert's analysis, I shall make some findings on the impact of two particular factors they have taken into account: (a) the likelihood of the plaintiff securing the five pre-commitment tenants for occupation in January 2010 if the delay in completion had not occurred, and (b) the impact of the GFC on demand for unit space in Biopolis 3.

*(I) Likelihood of securing the five pre-commitment tenants*

147 The plaintiff contends that the delay in completion caused it to lose the five pre-commitment tenants which would otherwise have leased a total of 35.7% of the NLA of Biopolis 3 in 2010. Prior to 2010, the plaintiff's negotiations with these pre-commitment tenants had reached a very advanced stage. However, because Biopolis 3 was not completed on time in January 2010 and there was no certainty as to when it would be completed, the five pre-commitment tenants decided not to lease unit space in Biopolis 3.[note: 192] This assessment is corroborated by Dr Woo and Mr Yeo, who opined in their joint expert report that based on market practice and industry norms, the volume and nature of the exchanges between the plaintiff and the five pre-commitment tenants indicates that these negotiations were at an advanced stage. Dr Woo and Mr Yeo assessed that there was a strong likelihood that all five pre-commitment tenants would have leased space in Biopolis 3 if it had been completed on time in January 2010.[note: 193]

148 On the other hand, the defendant submits that the plaintiff has failed to prove that it was the defendant's 161 days of delay (as opposed to the plaintiff's 173 days of delay) which caused the five pre-commitment tenants not to enter into lease agreements with the plaintiff.[note: 194] The evidence indicates that there were other reasons for these tenants not to enter into the lease agreements.[note: 195] In particular, the defendant argues that the real reason for the loss of the five pre-commitment tenants was that the plaintiff's rental rates for Biopolis 3 were too high.[note: 196] The defendant relies on an email from ICES, one of the five pre-commitment tenants, to the plaintiff dated 25 September 2009 (the "September 2009 ICES Email"). This email stated:[note: 197]

> We are regretted [*sic*] to inform you that we will not be taking up the lab & office space we discussed previously. This is due to the timeline for the completion is [*sic*] far longer than our expected delivery date.
>
> *Nevertheless, we have found an available space now at a lower rate.*
>
> [emphasis added]

149 I accept the plaintiff's argument that the loss of the five pre-commitment tenants was caused primarily by the delay in completion, and not by the plaintiff's rental rates. Having reviewed the volume and nature of the exchanges between the plaintiff and the five pre-commitment tenants in detail, Dr Woo and Mr Yeo concluded that these negotiations were at a relatively advanced stage based on market practice and industry norms. They opined that it was likely that all five pre-commitment tenants would have entered into leases with the plaintiff if Biopolis 3 had been completed on time in January 2010 (see [147] above).[note: 198] I agree with the plaintiff's submission that Dr Woo would be well-placed to assess whether the negotiations had reached a stage where the parties were close to concluding a lease based on her many years of real estate experience and her knowledge of the norms and practices in leasing transactions.[note: 199] Further, while Assoc Prof Tay was more cautious and noted that the evidence was not definitive, he too observed that the correspondence between the plaintiff and the five pre-commitment tenants suggested that the loss of these tenants stemmed largely from the delay in completion.[note: 200] Hence, I accept the experts' assessment of the discussions between the plaintiff and the five pre-commitment tenants.

150 Furthermore, I agree with the plaintiff that reasonable certainty as to the completion date is a material consideration for any prospective tenant.[note: 201] In the present case, the completion date for Biopolis 3 was pushed back a total of 13 times from the original completion date stated in the LOI (*ie*, 22 January 2010) to the certified completion date (*ie*, 12 January 2011).[note: 202] I also agree

with the plaintiff's submission that the frequent changes in the completion date would have caused prospective tenants to lose confidence in the plaintiff's ability to hand over the premises on time, which would in turn make these tenants less inclined to commit to leasing unit space in Biopolis 3.[note: 203] The uncertainty as to when Biopolis 3 would be completed and the repeated postponement of the completion date would naturally have caused the loss of the five pre-commitment tenants, who would have wanted more certainty regarding their lease commencement dates before committing to leasing unit space in Biopolis 3. This is borne out by the correspondence exchanged between each pre-commitment tenant (or its representative in the negotiations) and the plaintiff, which supports the plaintiff's submission that the repeated changes in the completion date meant that leasing space in Biopolis 3 was no longer in line with each pre-commitment tenant's business plans. These repeated changes may also have caused the five pre-commitment tenants to become frustrated with the plaintiff.[note: 204]

151 Bearing the above in mind, I shall now make some specific observations with regard to each pre-commitment tenant. The evidence supports the experts' assessment that the loss of the five pre-commitment tenants was caused primarily by the delay in the completion of Biopolis 3.

(A) ICES

152 Starting with ICES, although the September 2009 ICES Email (see [148] above) mentioned that ICES had found another space "at a lower rate", this must be read in context. ICES's primary explanation for not taking up the space was that "the timeline for … completion [was] far longer than [their] expected delivery date". ICES also mentioned that the space offering a lower rate was "available". Taken as a whole, the September 2009 ICES Email supports the plaintiff's submission that the real and predominant reason for the loss of ICES as a pre-commitment tenant was the delay in the completion of Biopolis 3.[note: 205] The lower rental rate elsewhere was a sweetener.

(B) ABBOTT

153 As for Abbott, an email to the plaintiff dated 7 April 2010 stressed that the timely completion of Biopolis 3 was very important as Abbott wished to have possession of its intended space by October 2010.[note: 206] Abbott became disinterested in Biopolis 3 shortly after it was informed on 8 November 2010 that there were further delays in completion and that the plaintiff was unable to confirm the lease commencement date for Abbott's intended space.[note: 207] This strongly suggests that the delay in completion was the predominant reason for the loss of Abbott as a pre-commitment tenant.[note: 208]

154 The defendant relies on emails between the plaintiff and Abbott or its representatives in December 2010 and January 2011 to argue that Abbott was still interested in entering into a lease agreement with the plaintiff even after it was informed about the further delays in completion on 8 November 2010.[note: 209] However, the fact that Abbott continued to communicate with the plaintiff after 8 November 2010 (in particular, the email from Abbott's in-house counsel on 7 December 2010)[note: 210] does not show that its decision to abandon its negotiations with the plaintiff was not a result of the delay. The plaintiff points out that Abbott's key representative in the negotiations (one Mr George Argeropolos, Abbott's Real Estate Manager) was no longer involved in the correspondence between Abbott and the plaintiff by this time.[note: 211] Given the importance to Abbott of the timely completion of Biopolis 3, I accept that the delay was likely to have been the predominant reason for its decision not to lease unit space at Biopolis 3.

155 Further, although there are no emails from Abbott showing that it had abandoned the negotiations because of the delay, I agree with the plaintiff's submission that it was not necessary for Abbott to express its dissatisfaction over email since the easiest way for Abbott to disengage from the negotiations would have been for its senior management or key representatives to stop responding altogether.[note: 212]

(c) NTU

156 Similarly, in NTU's email to the plaintiff dated 8 September 2009, it enquired about the expected completion date for Biopolis 3 and whether the previous target completion date (May 2010) was still achievable.[note: 213] The plaintiff replied that the expected completion date was now end-May 2010 or June 2010.[note: 214] In subsequent emails dated 12 March 2010 and 13 October 2010, NTU asked for further updates on the expected completion date.[note: 215] Eventually, after the plaintiff informed NTU that the expected completion date was now mid-December 2010, NTU replied on 1 November 2010 stating that it would no longer require the space at Biopolis 3.[note: 216] This, too, indicates that the delay in completion was the predominant reason for the loss of NTU as a pre-commitment tenant for Biopolis 3. I agree with the plaintiff's submission that NTU's regular enquiries on the completion date indicated its strong interest, which waned when it was faced with the repeated postponement of the completion date.[note: 217]

157 The defendant submits that the more likely reason for the loss of NTU as a pre-commitment tenant was that it no longer required the space. The size and location of the space required by NTU changed multiple times over the course of its negotiations with the plaintiff.[note: 218] However, I agree with the plaintiff's submission that the evidence shows that NTU was uncomfortable with the repeated delays in completion.[note: 219]

(d) Philip Morris

158 As for Philip Morris, EDB had informed the plaintiff that Philip Morris was intending for its R&D centre to be operational by the third or fourth quarter of 2010.[note: 220] The memorandum of understanding dated 29 April 2009, which was signed between the plaintiff and Philip Morris, provided for an exclusivity period until 31 July 2009. During this exclusivity period, the plaintiff was not to market Philip Morris's intended space in Biopolis 3 to any other prospective tenants.[note: 221] At a meeting on 5 June 2009, Philip Morris informed the plaintiff that it intended to commence fitting-out work from early January 2010 and to complete this work by October 2010, with full operations commencing sometime in January 2011.[note: 222] At follow-up meetings, the plaintiff informed Philip Morris that it was unlikely that Biopolis 3 would be completed by 31 May 2010, and that the plaintiff was unable to confirm a completion date.[note: 223] On 26 June 2009, the plaintiff was asked to provide an update on the construction progress of Biopolis 3.[note: 224] Subsequently, on 1 August 2009, Philip Morris informed the plaintiff that the exclusivity period had expired and would not be extended.[note: 225]

159 Philip Morris later leased space at another business park, the Kendall, in early 2010.[note: 226] During the trial, the defendant's counsel highlighted that the gross monthly rental rate at the Kendall was $3.80 *per* sq ft (inclusive of service charges).[note: 227] This is significantly lower than the plaintiff's asking monthly rental rate for Biopolis 3, which was between $4.50 and $5.50 *per*

sq ft.[note: 228] On this basis, the defendant submits that the loss of Philip Morris as a pre-commitment tenant was "simply because [Philip Morris] agreed to more attractive terms at [the] Kendall" and that "the cheaper rent in [the] Kendall speaks for itself".[note: 229] However, Mr Leow explained that this comparison of rental rates was too simplistic. While the Kendall's monthly rental rates might appear lower, Biopolis 3 was equipped with a district cooling system which reduced the capital expenditure and air-conditioning expenditure that its tenants would have to incur.[note: 230] Further, Biopolis 3 is located in One-North, which is a superior location to Science Park (where the Kendall was located).[note: 231]

160 In these circumstances, I accept the plaintiff's argument that the delay was the reason for Philip Morris ending the negotiations.[note: 232] The Kendall's lower asking rental rates may not have translated into longer-term cost savings for Philip Morris. In any event, as the plaintiff submits, Phillip Morris would already have taken into account the higher rental rates at Biopolis 3 before engaging in substantive negotiations with the plaintiff.[note: 233] In my view, the fact that the Kendall's asking rental rates were lower on paper was merely a secondary consideration that helped Philip Morris to ultimately decide to choose the Kendall over Biopolis 3. The predominant reason for the loss of Philip Morris as a tenant was still the delay in the completion of Biopolis 3.

(E) PETNET

161 I turn finally to PetNet. The plaintiff and PetNet had been in negotiations since July 2008. In its email dated 18 November 2008, PetNet informed the plaintiff that it required a facility called a cyclotron to be rigged into the Biopolis 3 building in late November 2009 or early December 2009.[note: 234] Later, on 6 January 2009, PetNet wrote to the plaintiff seeking updates on the completion of Biopolis 3.[note: 235] After the plaintiff confirmed that there had been a delay in completion,[note: 236] PetNet informed the plaintiff on 8 January 2009 that it was "becoming increasingly nervous about the potential delay in … Biopolis 3's construction schedule, negatively effecting [*sic*] [their] project plan's timeline".[note: 237] On 10 June 2010, PetNet confirmed that it (and not Siemens) would be signing the lease agreement with the plaintiff.[note: 238] However, at this point, the plaintiff was not in a position to sign the lease agreement as Biopolis 3 was not yet ready.[note: 239]

162 Over a year later, during a meeting on 8 August 2011 (after the completion of Biopolis 3), PetNet asked whether the plaintiff could reduce the area of the space to be leased by PetNet. The plaintiff refused as the space had been designed and constructed in accordance with PetNet's specifications. At that meeting, PetNet informed the plaintiff that it might have to change its business plans.[note: 240] Mr Leow pointed out that that PetNet was interested in setting up business in Biopolis 3 and the plaintiff had incurred millions of dollars building the cyclotron for PetNet. Further, PetNet and the plaintiff had been engaged in negotiations for one to two years before PetNet withdrew. Mr Leow opined that, based on his years of business experience, PetNet's conduct suggested that the prolonged delay in Biopolis 3's completion caused PetNet to be "brought to a timeline where … their type of business no longer is competitive".[note: 241]

163 Compared to the other four pre-commitment tenants, the correspondence between the plaintiff and PetNet is less clear in indicating the reason for PetNet's decision not to lease unit space at Biopolis 3. Nevertheless, I am of the view that the delay in completion was the predominant reason for the loss of PetNet as a pre-commitment tenant. Although PetNet's decision not to take up the lease appears to have been finalised *after* Biopolis 3 had been certified complete on 12 January 2011,

the fact remains that PetNet had expressed concern about the delay in completion negatively affecting its project plans. The defendant does not dispute that PetNet's reason for not taking up the lease was that PetNet's business plans had changed.[note: 242] PetNet's change in business plans occurred after Biopolis 3's completion date had already been delayed by almost a year. This suggests that the change in PetNet's business plans was *itself* caused by the delay in completion. It must be borne in mind that Biopolis 3's completion date was pushed back a total of *13 times*. I agree with the plaintiff's submission that the delay caused PetNet to lose its first-mover advantage as other providers of cyclotron services had entered the Singapore market by this time.[note: 243] Hence, I am of the view that, on the balance of probabilities, PetNet would have leased unit space in Biopolis 3 if there had been no prolonged delay to completion. It was very costly for PetNet to terminate its interest at Biopolis 3 as it had to compensate the plaintiff about $4.75m (which I shall elaborate on at [165] below).

164 At this juncture, I would like to deal with the further issue of whether the plaintiff has already recovered part of its loss of net rental revenue from PetNet, such that its claim against the defendant would amount to double recovery.

165 First, the plaintiff and PetNet had entered into a settlement agreement under which PetNet paid the plaintiff $4.75m in 2014.[note: 244] However, I accept the plaintiff's submission that this sum did not represent the loss of net rental revenue that would have been earned from PetNet. Instead, this sum was compensation for the construction and reinstatement costs that would be incurred by the plaintiff as a result of PetNet terminating its interest at Biopolis 3.[note: 245] Mr Leow explained that the settlement sum paid by PetNet was compensation for the costs incurred by the plaintiff in building the cyclotron for PetNet, and not compensation for the loss of net rental revenue.[note: 246] During his cross-examination, the defendant's counsel put it to Mr Leow that this $4.75m which the plaintiff received from PetNet should be deducted from the plaintiff's claim against the defendant for loss of net rental revenue. Mr Leow disagreed and insisted that the $4.75m was a "separate item altogether".[note: 247] I note that he agreed with the defendant's counsel's final suggestion that the plaintiff was double-claiming by refusing to deduct the $4.75m from its claim against the defendant. On this basis, the defendant submits that Mr Leow conceded that the plaintiff was double-claiming.[note: 248] However, when this apparent concession is read in the context of Mr Leow's steadfast disagreement until that point, I believe that he had misunderstood the question when he agreed with the final suggestion:[note: 249]

> Q: … So would you agree with me that this 4.75 million that you received from PETNET should be deducted from any claim by [the plaintiff] against [the defendant] for loss of rental revenue?
>
> A: *No.*
>
> Q: Would you agree that if it's not deducted, then it would amount to a double claim?
>
> A: *No, it's a separate item altogether.*
>
> Q: This sum of 4.75 million should be deducted from the 12.1 million that you're claiming from [the defendant] for loss of revenue. Would you agree?
>
> A: *No, disagree.*
>
> …

Q: … [A]ssuming the court makes that finding [*ie*, that the plaintiff did not mitigate its loss], then I put it to you that the 4.75 million that you received from PETNET should be deducted from the claim of 4.5 million.

A: I think *this 4.75 million has got nothing to do with these losses I've suffered when I lost PETNET*.

Q: Sure. Final put on this point. By refusing to deduct the 4.75 million from any monies you're claiming from [the defendant], you're actually double-claiming. Would you agree?

A: *Agree.*

[emphasis added]

166 Unfortunately, the plaintiff's counsel did not clarify this issue in re-examination.

167 The defendant submits that, whether this settlement sum of $4.75m was paid to the plaintiff by PetNet as compensation for loss of net rental revenue or as compensation for the construction and reinstatement costs relating to the cyclotron, this sum should be deducted from any damages awarded to the plaintiff.[note: 250] Even though Mr Leow testified that the settlement sum was meant to cover the costs incurred by the plaintiff in building the cyclotron, Mr Leow also gave evidence that the plaintiff did not in fact incur any reinstatement costs as the plaintiff did not demolish the cyclotron and reinstate the premises to ordinary lab space.[note: 251] This was because the plaintiff eventually found another tenant in 2017 who wanted unit space with a cyclotron.[note: 252] Therefore, the defendant argues that the substantial settlement sum of $4.75m was a "windfall" which compensated the plaintiff for PetNet's decision not to execute its lease,[note: 253] and which should be deducted from any damages awarded to the plaintiff.[note: 254] The defendant further emphasises that the precise terms of, and leading to, the plaintiff's settlement with PetNet remain unknown.[note: 255]

168 However, I am unable to agree with the defendant's submissions on this point. Based on Mr Leow's testimony in court, I accept that the settlement sum of $4.75m was not meant to compensate the plaintiff for the rental revenue that the plaintiff would have earned from PetNet if PetNet had not been lost as a pre-commitment tenant. Since the plaintiff had incurred millions of dollars building the cyclotron for PetNet and constructing PetNet's unit space in accordance with PetNet's specifications (see [162] above), I find it more likely that the $4.75m was paid by PetNet to compensate the plaintiff for its wasted expenditure. The fact that the plaintiff found another tenant who wanted a cyclotron several years later does not change the fact that, in 2014, the settlement sum was intended to cover the expenditure that the plaintiff had already incurred in building the cyclotron and the expenditure that the plaintiff might have to incur to demolish it if no alternative tenant was found. This is separate and distinct from, and has no nexus to, the loss of net rental revenue which the plaintiff claims from the defendant in the present proceedings. Further, the defendant did not adduce any evidence to rebut the plaintiff's assertions and there is no evidence to show that the $4.75m would cause double-counting to arise in the quantum of damages sought by the plaintiff. Hence, in my view, there is no double-counting and the settlement sum of $4.75m should not be deducted from the damages awarded to the plaintiff.

169 Second, the plaintiff had issued invoices to PetNet for rent in 2011 and 2012.[note: 256] However, Mr Leow confirmed that the plaintiff did not receive any payment from PetNet under these

invoices and that these invoices were eventually written off in the plaintiff's accounts.[note: 257] This is corroborated by the plaintiff's audited financial statements for 2012.[note: 258] The defendant has not adduced any evidence to the contrary.

170 Therefore, no issue of double recovery arises with regard to either the plaintiff's settlement agreement with PetNet or the invoices rendered by the plaintiff to PetNet.

(F) CONCLUSION ON THE FIVE PRE-COMMITMENT TENANTS

171 I, therefore, find that the plaintiff has proved on the balance of probabilities that the loss of the five pre-commitment tenants was caused primarily by the delay in the completion of Biopolis 3. If the delay had not occurred, the five pre-commitment tenants would have leased a total of 35.7% of Biopolis 3's NLA in 2010. Hence, I accept Dr Woo and Mr Yeo's assessment that Biopolis 3 would have achieved a starting occupancy rate of 35.7% at the start of 2010 if the delay in completion had not occurred.

*(II) Impact of the global financial crisis on demand for unit space*

172 Both Assoc Prof Yu and Assoc Prof Tay took the view that the GFC would have lowered the first-year occupancy rate achieved by Biopolis 3 if it had been completed in 2010. Assoc Prof Tay also suggested that the volatility of the BMS investment sector justified a more conservative estimate of Biopolis 3's first-year occupancy rate. This appears to have been the main factor that led Assoc Prof Yu to adopt an estimate of 25% and Assoc Prof Tay to reduce his estimate from 50% to 40%.

173 The plaintiff submits that the GFC had no impact on the demand for BMS R&D space.[note: 259] The plaintiff relies on Singstat data showing that expenditure on R&D for biomedical and related sciences remained fairly constant, and indeed increased slightly, from 2009 to 2011, notwithstanding that Gross Domestic Product growth slowed down as a result of the GFC.[note: 260] Further, the plaintiff submits that the government did not waver in its support for the BMS R&D sector and investments continued to pour in to ensure the growth of this sector. Hence, there was strong demand for BMS R&D space notwithstanding the GFC.[note: 261] The plaintiff also relies on the fact that the occupancy levels of Biopolis 1 and Biopolis 2 remained close to 100% even during the years when the GFC had impacted Singapore's economy,[note: 262] and the fact that the plaintiff had received around 70 expressions of interest from prospective tenants (many of whom were multi-national corporations, government-linked corporations and institutes of higher learning) even during the period from 2008 to 2010.[note: 263] Finally, the plaintiff relies on JTC Corporation's letter dated 21 October 2009 ("JTC's October 2009 Letter") which informed the plaintiff that there was strong interest for space in Biopolis 3 despite the economic downturn.[note: 264]

174 On the other hand, the defendant argues that the GFC had an impact on demand for rental space in the BMS R&D sector and would have significantly affected Biopolis 3's first-year occupancy rate if it had been completed in 2010.[note: 265] In Assoc Prof Yu's expert report, he opined that the BMS industry "went through a volatile period in 2008 and the weakening of the sector with falling output led to the substantial drop in demand for business park space in 2008". Assoc Prof Yu further noted that the BMS sector was "a very volatile sector, which heavily impacts on the demand for business park space".[note: 266] The defendant points out that the fact that BMS R&D expenditure remained constant does not mean that rental expenditure and occupancy rates would have remained constant. This would depend on whether that expenditure went towards leasing premises or was

instead used for other purposes such as purchasing equipment, recruiting manpower, or capital or operating expenditure.[note: 267] In this regard, the defendant relies on JTC J-Space data showing that the occupancy rates for One-North dropped from 94.25% in 2009 to 92.33% in 2010 and 82.45% in 2011, before increasing in 2012.[note: 268] Based on this data, the defendant argues that BMS R&D companies may have increased their spending on variable costs such as hiring manpower or procuring equipment during this period, but avoided committing to long-term leases (which would require expensive fitting-out works to be done) in view of the global uncertainties caused by the GFC.[note: 269]

175 Having considered the data and arguments put forth by both parties, I am of the view that the GFC did have some impact on the BMS R&D sector, but did not have as significant an impact on the occupancy rates of BMS R&D developments (such as Biopolis 3) as the defendant suggests.

176 I accept that the GFC would have had some impact on the first-year occupancy rate of Biopolis 3 if it had been completed in 2010. Indeed, in the Liability Judgment (HC) at [378], I found that the plaintiff had embarked on a subtle campaign to slow down the completion of Biopolis 3 largely due to the GFC which threw a pall of uncertainty over the demand for Biopolis 3 at that time. One of the plaintiff's witnesses, Mr Onn Soon Lee, admitted during the trial on liability that the GFC had a considerable impact on the likely demand for Biopolis 3 at the time (see the Liability Judgment (HC) at [379]).[note: 270] Therefore, the plaintiff knew that the GFC would have some impact on demand for Biopolis 3. The plaintiff contends that these were "comments by laymen"[note: 271] and thus irrelevant. But these comments were not from any ordinary lay person. This was the opinion of the plaintiff's own witnesses who constructed Biopolis 3 to serve the BMS R&D industry. Hence, this opinion provides a useful indicator of the actual impact of the GFC on Biopolis 3 at the material time.

177 I also agree with the defendant's argument (supported by Assoc Prof Yu's assessment)[note: 272] that the fact that overall expenditure on BMS R&D remained fairly constant did not mean it would not affect the demand for *BMS R&D space*, such that the occupancy rates of BMS R&D developments would also remain constant. While the JTC J-Space occupancy rate data relied on by the defendant was based on the whole One-North area, which includes non-BMS business parks such as Fusionopolis and Mediapolis (which focus on information and communications technologies, media, physical sciences and engineering),[note: 273] it does suggest that the GFC may have had some impact on occupancy rates of developments in the vicinity of Biopolis 3. I acknowledge that this could also be attributable to the increase in supply due to the introduction of Fusionopolis Phase 2B in the fourth quarter of 2010.[note: 274] However, as the defendant points out, the occupancy rates of Fusionopolis Phase 2B at the material time are not in evidence.[note: 275] The fact that the actual first-year occupancy rate achieved by Biopolis 3 in 2011 was only 12.9%[note: 276] further suggests that the GFC did have some impact on demand for BMS R&D space, even if the GFC was not the only factor accounting for the low occupancy rate of 12.9%.

178 Further, while BMS manufacturing investment may not be directly correlated with BMS R&D expenditure, I am inclined to think that there would, nevertheless, be some interconnection between the two sectors. I accept the plaintiff's submission that investments in BMS manufacturing are not the same as investments in BMS R&D.[note: 277] However, I agree with the defendant's submission that both BMS manufacturing and BMS R&D are ultimately still part of an interconnected BMS industry "ecosystem",[note: 278] such that a drop in manufacturing would affect the BMS industry as a whole and, by extension, demand for BMS R&D space.[note: 279] For example, it is conceivable that some of

the output produced by BMS R&D would eventually need to be manufactured for wider use. If the demand for such output fell as a result of a drop in manufacturing investment, this could also have an impact further upstream on the BMS R&D sector. Therefore, BMS R&D expenditure is unlikely to be wholly unaffected by economic conditions affecting the BMS manufacturing sector. This conclusion is supported by Assoc Prof Tay's comment that "all industries would be affected to some extent" by the GFC because "the economies are all interconnected".[note: 280]

179 However, I do not think the impact of the GFC was as significant as the defendant claims. Assoc Prof Yu's opinion, on which the defendant relies, was not supported by specific empirical data or detailed analysis relating to the BMS R&D sector.[note: 281]

180 In October 2009, JTC Corporation sent JTC's October 2009 Letter to the plaintiff (referred to at [173] above) which stated that "[d]espite the recent economic downturn, there has been strong interest for space in Biopolis Phase 3, judging from the queries from various multi-national companies introduced by EDB during the past few months".[note: 282] Assoc Prof Yu, in his cross-examination, accepted that JTC Corporation, as the public body in charge of developing and marketing business parks in Singapore, would have authoritative and reliable data regarding these business parks.[note: 283]

181 I also accept Dr Woo's assessment that demand for BMS R&D space is relatively stable and resilient because of the highly specialised nature of the BMS R&D sector.[note: 284] Dr Woo relied on Singstat data showing that the correlation between BMS R&D expenditure and Gross Domestic Product growth from 2008–2014 was weak.[note: 285] This is borne out by the fact that the average occupancy rates for One-North remained high in 2010 and 2011 at 92.3% and 82.5% respectively, notwithstanding that these rates were lower than the average occupancy rate of 94.3% for One-North in 2009.[note: 286]

182 Furthermore, in view of the fact that the occupancy levels of Biopolis 1 and Biopolis 2 remained close to 100% despite the GFC, and the plaintiff received numerous expressions of interest from prospective tenants even during the period when the GFC had impacted Singapore's economy, I agree with the plaintiff that the impact of the GFC on the BMS R&D sector may not have been very significant. While it is true that expressions of interest are preliminary enquiries and do not signal a substantive commitment,[note: 287] they are nevertheless indicative of the market demand for a property. The defendant also argues that there might be many other reasons why the occupancy levels of Biopolis 1 and Biopolis 2 did not change, such as the fact that existing tenants had already committed to multi-year leases in those developments. In contrast, prospective tenants who were considering expanding into new premises might hold back on committing to leases.[note: 288] Hence, the defendant contends that there is "no correlation" between the high occupancy levels of Biopolis 1 and Biopolis 2 and the demand for "fresh" BMS R&D space.[note: 289] However, when the stable and high occupancy levels of Biopolis 1 and Biopolis 2 are viewed together with the numerous expressions of interest from prospective tenants, JTC's October 2009 Letter and the data discussed above, they support the conclusion that the impact of the GFC on the BMS R&D sector was not as significant as the defendant claims.

183 Hence, I find that the impact of the GFC on the first-year occupancy rate that Biopolis 3 would have achieved if it had been completed in 2010 should not be overstated. Nor should the volatility of the BMS R&D investment sector be overemphasised. While the GFC would have had some impact on occupancy rates for BMS R&D space, its impact is unlikely to have been as significant as the

defendant contends. As Mr Yeo explained, market demand for specialised business park space such as Biopolis 3 may not move in tandem with a country's overall economic performance because BMS R&D is the "lifeblood" of the BMS sector.[note: 290] The specialised nature of this sector may, therefore, provide some buffer against the effect of general economic conditions.

*(III) Evaluation of the experts' projected first-year occupancy rates*

184 With the above findings in mind, I turn to consider each expert's projected first-year occupancy rates for Biopolis 3 in 2010.

185 First, I am of the view that Dr Woo's first-year occupancy rate of 54.2% for Biopolis 3 is too high. As I have explained at [149]–[171] above, I accept Dr Woo and Mr Yeo's assessment that Biopolis 3 would have achieved a starting occupancy rate of 35.7% at the start of 2010 if the delay in completion had not occurred. However, even if I accept that Biopolis 3's occupancy rate at the start of 2011 would have been 49.3%, the average of these two figures (representing Biopolis 3's first-year occupancy rate for the whole of 2010) would be only 42.5%. I do not agree that a *further* average should be taken of 42.5%, 50% (Chromos's first-year occupancy rate) and 70% (Biopolis 2's first-year occupancy rate). Dr Woo explained that the latter two figures should be taken into account because both Chromos and Biopolis 2 are similarly targeted at the BMS R&D sector and are situated in similar locations, and they are therefore good comparables with Biopolis 3.[note: 291] However, in my view, there are two reasons why these two figures should be excluded:

(a) First, this would lead to the high occupancy rates achieved by Biopolis 2 being taken into account twice. Dr Woo's projected second-year occupancy rate of 49.3% for Biopolis 3 was derived by projecting occupancy growth in a straight line from 35.7% at the start of 2010 to 90% (stabilised occupancy) in 2014. Dr Woo's estimate of 90% as the appropriate stabilised occupancy level for Biopolis 3 was, in turn, based on the stabilised occupancy levels achieved by five comparable business park developments, one of which was Biopolis 2.[note: 292] If Biopolis 2's first-year occupancy rate of 70% is taken into account again at this step of the analysis, the high occupancy rates achieved by Biopolis 2 may be given too much weight.

(b) Second, the empirical occupancy rate data for Chromos and Biopolis 2 is somewhat dated. Dr Woo acknowledged that both of these developments were completed during a different time period, with Chromos having been completed in 2003 and Biopolis 2 having been completed in 2006.[note: 293] If Biopolis 3 had been completed on time in 2010, this would have been four years after Biopolis 2 was completed. As market conditions may change over time, it cannot be assumed that the first-year occupancy rates achieved by Chromos and Biopolis 2 in 2003 and 2006 respectively are representative of those which Biopolis 3 would have achieved in 2010. During the trial, Dr Woo acknowledged that the lack of currency of the Chromos and Biopolis 2 data could reduce its reliability.[note: 294]

186 I, therefore, find that Dr Woo's estimated first-year occupancy rate of 54.2% for Biopolis 3 is overly optimistic. In my view, the figure of 42.5% (which Dr Woo derived from averaging the projected occupancy rates that Biopolis 3 would have achieved at the start of 2010 and the start of 2011 if there had been no delay in completion) is a more accurate estimate of Biopolis 3's first-year occupancy rate in 2010. Further, if the plaintiff was only able to attract the five pre-commitment tenants (accounting for 35.7% of the NLA) despite having commenced marketing for Biopolis 3 in 2008, I find it unlikely that the plaintiff would have managed to secure an additional 18.5% of occupancy (amounting to a total of 54.2%) over the course of 2010 alone. Instead, it is more realistic that the plaintiff would have managed to secure only an additional 6.8% of occupancy over the

course of 2010 (amounting to a total of 42.5%). This is a fair assessment as Biopolis 3 only managed to achieve an occupancy rate of 12.9% in 2011.

187 I turn now to Assoc Prof Yu's estimate of 25%. In my view, this is far too low.

188 First, this is the same figure that he adopted as the estimated occupancy rate for Biopolis 3 in *January* 2010. Therefore, it assumes that no other tenants would have leased unit space in Biopolis 3 over the course of 2010. Applying Dr Woo's approach of averaging the projected occupancy rates that Biopolis 3 would have achieved at the start of 2010 and the start of 2011, but using Assoc Prof Yu's projected rates of 25% and 60% respectively,[note: 295] the first-year occupancy rate for Biopolis 3 for the whole of 2010 would be 42.5%.

189 Second, as Assoc Prof Tay observed,[note: 296] Assoc Prof Yu's analysis was based on generic islandwide business park data. As such, it may not adequately reflect the specialised nature of the BMS R&D sector and the government's active promotion of this sector. Therefore, Assoc Prof Yu's analysis is also likely to have overstated the effect of the GFC on Biopolis 3's projected first-year occupancy rate in 2010. As I have observed at [183] above, the specialised nature of the BMS R&D sector may provide some buffer against the effect of general economic conditions which would affect other non-specialised developments.

190 Third, Assoc Prof Yu did not explain in detail the basis for arriving at a figure of 25% as a reasonable occupancy rate. For example, he stated that Biopolis 3 (as a more specialised facility) would be able to achieve a lower occupancy rate than CleanTech One, but did not explain why he reduced CleanTech One's first-year occupancy rate of 50% by half to arrive at a first-year occupancy rate of 25% for Biopolis 3. During his re-examination, he stated that he had simply used his professional judgment to arrive at his estimated occupancy rates.[note: 297] Further, as the plaintiff points out, occupancy data from CleanTech One is not contemporaneous as it was completed in 2012 (not 2010) and CleanTech One was also a specialised building, albeit in a different sector from Biopolis 3.[note: 298] I agree with the plaintiff's submission that Assoc Prof Yu provided no basis for halving the 50% occupancy achieved by CleanTech One to derive Biopolis 3's occupancy rate for 2010.

191 Hence, I find that Assoc Prof Yu's estimated first-year occupancy rate of 25% for Biopolis 3 is overly conservative.

192 Finally, I come to Assoc Prof Tay's estimate of 40%. As I have explained at [143] above, he first determined the weighted average occupancy rate based on three comparable buildings (50%) and then reduced this rate to reflect the volatility of the BMS sector. I see no reason to question Assoc Prof Tay's calculation of the weighted average occupancy rate, which is based predominantly on the actual occupancy rate achieved by Biopolis 3 in late 2011 and which takes into account the lack of currency of the data for Biopolis 2. However, with respect, I do not agree with Assoc Prof Tay that this figure should be reduced to 40%. As I have explained at [175]–[183] above, the impact of the GFC on the first-year occupancy rate that Biopolis 3 would have achieved if it had been completed in 2010 is unlikely to have been so significant as to justify a one-fifth reduction in occupancy. During the trial, Assoc Prof Tay agreed that the reduction from 50% to 40% was based on his professional judgment and "gut feel".[note: 299] His assessment of the impact of the GFC also vacillated over the course of his questioning. When he was questioned by the plaintiff's counsel, he agreed that the evidence showed that the demand for BMS R&D space was unaffected by the GFC.[note: 300] However, later when he was questioned by the defendant's counsel based on different

data, he reverted to his original view that the GFC had an impact on the BMS R&D sector.[note: 301] Assoc Prof Tay did not offer any way of reconciling the conflicting evidence in support of his assessment that the impact of the GFC would have been so significant as to warrant a one-fifth reduction in Biopolis 3's first-year occupancy rate. In view of this, I find that Assoc Prof Tay's estimated first-year occupancy rate of 40% for Biopolis 3 in 2010 is also conservative.

193 Taking all of the above considerations into account, I am of the view that Biopolis 3 was likely to have achieved a first-year occupancy rate of approximately 42.5% in 2010 if there had been no delay in completion.

(2) Gross monthly rental rates

194 The plaintiff submits that the gross monthly rental rates that should be used in the single-year model are the weighted monthly rental rates (inclusive of rent-free periods and rent escalation) for each of the five pre-commitment tenants, and $5.24 *per* sq ft for the other tenants.[note: 302] The defendant disagrees and contends that Assoc Prof Yu's projected gross monthly rental rates should be used instead.[note: 303] I shall now elaborate on each expert's projected gross monthly rental rates.

(A) Dr Woo – $5.62 *per* sq ft for the five pre-commitment tenants, $5.25 *per* sq ft for other tenants

195 To ascertain Biopolis 3's projected gross monthly rental rates for 2010, Dr Woo adopted a two-step approach.

196 First, Dr Woo estimated the weighted gross monthly rental rates for the five pre-commitment tenants. Here, she adopted an approach similar to that used to calculate Annual Average Rent for the purposes of stamp duty on IRAS's e-Stamping system.[note: 304] This approach takes into account the rental rates over each tenant's entire lease term, which may exclude or include the rent-free fitting-out period.[note: 305] Using information from each pre-commitment tenant's last communicated Letter of Offer ("LOO") and Memorandum of Understanding ("MOU"), Dr Woo estimated that the weighted gross rental rate was $5.69 *per* sq ft (over respective lease terms) and $5.55 *per* sq ft (over respective lease terms and rent-free periods), including service charges.[note: 306] The first figure of $5.69 *per* sq ft is based on computing the rent for each tenant on a year-by-year basis and dividing the total rent by each tenant's lease term.[note: 307] Taking the average of these two figures, Dr Woo estimated that the weighted gross monthly rental rate for the five pre-commitment tenants in 2010 was $5.62 *per* sq ft.[note: 308] During the trial, Dr Woo explained that she had taken the average of the two figures so as to follow the method used in IRAS's e-Stamping system and to give the benefit of doubt as it was not clear whether the rent-free periods were included or excluded.[note: 309] She also explained that these figures take into account the rent-free fitting-out periods and rent escalation clauses which may be included in each lease.[note: 310]

197 Next, Dr Woo estimated the gross market monthly rental rate applicable to tenants other than the five pre-commitment tenants. She estimated the gross rent for those tenancies in 2011 by taking the average of (i) the actual weighted contracted gross rent for Biopolis 3's four actual tenants in 2011 and (ii) the weighted average monthly rent with service charges included. She then discounted this figure against the islandwide 75th percentile quarterly rental average growth rate for business parks from 2010 to 2011 (which was an increase of 0.3%) to derive the likely gross rental rate for 2010 (by applying a deduction of 0.3%).[note: 311] The 75th percentile was used as Biopolis 3 is

located in the One-North area which generally commands a rental premium over islandwide business parks. This is consistent with the approach used by IRAS to determine the annual value of the tenancies that the plaintiff contracted for in 2011. Applying this step, Dr Woo estimated that the gross market monthly rental rate for these other tenants in 2010 was $5.25 *per* sq ft.[note: 312] During the trial, Dr Woo clarified that this figure does *not* take into account the rent-free fitting-out periods and rent escalation clauses that may be included in each lease.[note: 313]

(B) Mr Toh – $5.61 *per* sq ft

198 Mr Toh did not provide an estimate of the monthly rental rate for 2010 specifically for the purposes of the single-year model. However, under the multi-year model, Mr Toh estimated that the gross monthly rental rate for 2010 would have been $5.61 *per* sq ft (inclusive of service charges).[note: 314] This is the actual implied monthly rental rate for 2011, which Mr Toh adopted as the projected monthly rental rate for 2010.[note: 315] The actual implied monthly rental rate for 2011 was, in turn, computed by dividing the actual rental revenue earned by the plaintiff (taken from its audited financial statements) by the actual net leased area of Biopolis 3, and thereafter by 12 months.[note: 316]

199 During the trial, Mr Toh explained that his estimated monthly rental rates take into account rent-free fitting-out periods and rent escalation clauses. This is because Mr Toh straight-lined the effect of the rent-free periods and rent escalation clauses over the entire duration of the leases. Straight-lining involves dividing the total rental revenue received (including increases in rent which may only take effect in subsequent years under a rent escalation clause) over the entire period of the lease (including any rent-free periods). This distributes the effect of rent-free periods and rent escalation clauses evenly over the duration of the lease. Straight-lining is carried out to capture the true value of the lease agreement for accounting purposes.[note: 317] Mr Toh agreed that his estimated monthly rental rates would, therefore, not represent the rental revenue *received* by the plaintiff in a particular year.[note: 318]

(C) Assoc Prof Yu – $3.75 *per* sq ft

200 Assoc Prof Yu gave a much lower estimate of $3.75 *per* sq ft (including service charges) for the gross monthly rental rate for 2010. This was based primarily on generic islandwide business park rental rates, taking into account data from JTC Corporation, Knight Frank, Science Park, and all industrial and business park rental indices.[note: 319] Assoc Prof Yu also looked at the 75th percentile rates to ascertain the comparable rental rates for buildings in Science Park[note: 320] because these rates would be closer to the transacted rates for Biopolis 3.[note: 321] However, he looked at the median (*ie*, 50th percentile) rates as his reference point for ascertaining the *changes* in rental rates over time[note: 322] because these would reflect the movement of rental rates across the bulk of Science Park buildings.[note: 323] He acknowledged that Biopolis 3 belongs to the 75th percentile, but opined that the changes in rental rates for the 75th percentile did not deviate much from the median.[note: 324]

201 Assoc Prof Yu also explained that he did not take the rental rates for the five pre-commitment tenants into account in ascertaining the gross monthly rental rate for 2010 because they had not entered into final transactions with the plaintiff and their rental rates were still under negotiation.[note: 325]

(D) Assoc Prof Tay – $5 *per* sq ft

202 In his final set of calculations, Assoc Prof Tay adopted an average gross monthly rental rate of $5 *per* sq ft for 2010. He opined that the closest evidence of the rental rates that Biopolis 3 would have commanded in 2010 is the rates that were discussed in the plaintiff's negotiations with the five pre-commitment tenants in 2009. Even though these five pre-commitment tenants did not enter into actual leases with the plaintiff, this is the best available building-specific information on rental rates before Biopolis 3's completion. Assoc Prof Tay estimated that the weighted average gross rental rate for the five pre-commitment tenants was $5.54 *per* sq ft (inclusive of service charges). This is almost the same as Dr Woo's estimated weighted gross rental rate for the five pre-commitment tenants over their respective lease terms and rent-free periods, which was $5.55 *per* sq ft (see [196] above). However, Assoc Prof Tay then applied a 10% discount to reflect haggling, such that he arrived at a figure of $5 *per* sq ft.[note: 326]

(E) My findings

203 Before I evaluate each expert's estimate of the gross monthly rental rate Biopolis 3 would have commanded in 2010 if there had been no delay in completion, I would like to address the issue of whether (and how) rent-free periods and rent escalation clauses should be accounted for under the single-year model.

*(I) Rent-free periods and rent escalation clauses*

204 The plaintiff submits that the court should take into account rent-free fitting-out periods in calculating the plaintiff's loss of net rental revenue under the single-year model, by straight-lining the net rental revenue that it would have earned over the full term of the lease. This is because the rent forgone during the rent-free period is recouped from the rental payments made over the full term of the lease. For example, when the plaintiff agreed to give a rent-free fitting-out period to its tenants, this would have been conditional upon the tenant paying the full rental rate for the duration of the lease term. The plaintiff contends that if it is not compensated for the rent-free fitting-out periods, it must then be compensated for the security deposits that the plaintiff would have received from its tenants in 2010, which would be akin to compensating the plaintiff for the rent-free fitting-out periods. According to the plaintiff, the five pre-commitment tenants would have paid a total security deposit of $3,270,963.67 in 2010.[note: 327]

205 In my view, for the purposes of the single-year model, rent-free periods and rent escalation clauses should not be taken into account in calculating the plaintiff's loss of net rental revenue for 2010.

206 As the name suggests, rent-free periods are periods during which the plaintiff would not have received any rent from the tenant. They are usually given at the start of the lease to allow the tenant to complete the necessary fitting-out works in the rented space.[note: 328] Hence, even if a particular tenant would have commenced its lease in 2010 but for the delay in completion, the plaintiff would not have received any rent from that tenant during the rent-free period. With or without the delay, the plaintiff would not have earned rental revenue during the rent-free period. Furthermore, the rent-free periods for the five pre-commitment tenants were excluded from the duration of their leases. Therefore, to ascertain the rental revenue that the plaintiff would have earned *in 2010*, the gross monthly rental rate should be computed on an as-received basis. It should not be straight-lined across both the rent-free period and the period during which the tenant would have had to pay rent as this would overestimate the amount of rental revenue that the plaintiff would actually have earned

in 2010. I agree with the defendant's submission that straight-lining would "balloon" the loss seemingly suffered by the plaintiff in the initial years.[note: 329] As Mr Toh acknowledged during the trial, there is an element of artificiality in straight-lining as it involves deeming the plaintiff to have received revenue that it would not have actually received for accounting purposes.[note: 330] Assoc Prof Tay also agreed that straight-lining was inappropriate and that the court should instead look at the actual rent received.[note: 331]

207 The plaintiff argues that it is unfair to deny the plaintiff the security deposits that it would have received in 2010, as this would alter the contractual bargain between the plaintiff and the tenant. The security deposit covers the risk of the tenant defaulting and is a form of contractual security that the plaintiff would have received in 2010.[note: 332] However, I do not accept this argument. If a tenant defaults on its lease, the plaintiff can commence a separate action against that tenant to seek recourse. The risk of the tenant defaulting on its lease is unrelated to the delay and is not a risk that should be shouldered by the defendant. Further, security deposits are a form of contractual security held by the plaintiff and not net rental revenue that the plaintiff would otherwise have earned in 2010. Moreover, I agree with the defendant's argument that compensating the plaintiff for a security deposit that it would eventually be obligated to return to the tenant would give the plaintiff a windfall.[note: 333] If the tenant fulfilled all its obligations under the tenancy agreement, the security deposit would have to be returned in full and could not have been retained by the plaintiff.

208 Similarly, rent escalation clauses provide for increases in the rental rate over time. These increased rental rates would not have been enjoyed by the plaintiff *in 2010*, which would have been the first year of the lease. As the defendant argues, straight-lining would have the effect of "front-loading" net rental revenue which would only be earned in later years due to the rent escalation clause.[note: 334] Therefore, the gross monthly rental rate should not be straight-lined across the duration of the lease as this would take into account rent escalation over time. Instead, the gross monthly rental rate should be computed on an as-received basis, based on the monthly rental rates that would have applied in 2010.

209 It should also be emphasised that rent-free periods and rent escalation clauses vary from tenant to tenant. This is part of the negotiation process between the tenants and the landlord. Hence, there can be leases without rent-free periods and rent escalation clauses.

210 Therefore, the estimated gross monthly rental rates for Biopolis 3 in 2010 should not take into account either rent-free periods or rent-escalation clauses.

*(II) Evaluation of the experts' projected gross monthly rental rates*

211 First, in my view, the gross monthly rental rates that were under negotiation between the five pre-commitment tenants and the plaintiff provide a good gauge of the rates that Biopolis 3 would have commanded in 2010. While I acknowledge Assoc Prof Yu's concern that these rates had not yet been finalised (as the five pre-commitment tenants did not in fact enter into lease agreements with the plaintiff for Biopolis 3), I agree with Assoc Prof Tay that these rates are the best available building-specific information on the likely rental rates for Biopolis 3 at the relevant time.

212 With regard to the gross monthly rental rates applicable to the five pre-commitment tenants, I note that both Dr Woo and Assoc Prof Tay obtained their estimated weighted average gross monthly rental rates by straight-lining the plaintiff's rental revenue across the duration of each lease. Therefore, their calculations included the rent-free periods and rent escalation clauses in each pre-commitment tenant's lease. For the reasons I have explained at [205]–[210] above, I do not think

that rent-free periods and rent escalation clauses should be taken into account under the single-year model. For the same reasons, I do not wish to rely on Mr Toh's estimate of $5.61 *per* sq ft, as he also straight-lined the effect of the rent-free periods and rent escalation clauses over the entire duration of the leases.

213 To remove the effect of this straight-lining, the gross monthly rental rates for each pre-commitment tenant which Dr Woo and Assoc Prof Tay extracted from the relevant documents, in particular the last communicated LOO and MOU, should be used instead. These rates (inclusive of service charges) are as follows:

(a) $5.95 *per* sq ft for ICES, based on the LOO dated 5 March 2009;[note: 335]

(b) $6.25 *per* sq ft for Abbott, based on the draft LOO dated 15 October 2010;[note: 336]

(c) $5.55 *per* sq ft for NTU, based on the draft LOO dated 17 September 2010;[note: 337]

(d) $5 *per* sq ft for Philip Morris, based on the midpoint of the range of $4.50 to $5.50 *per* sq ft provided in the MOU signed on 4 May 2009;[note: 338] and

(e) $6.46 *per* sq ft for PetNet, based on emails dated 23 September 2009 and 6 September 2010. These emails came after the LOOs dated 24 April 2009 and 7 July 2009.[note: 339]

214 With regard to the gross monthly rental rates for the other tenants, I am prepared to accept Dr Woo's estimate of $5.25 *per* sq ft as she explained that this figure does not take into account rent-free periods and rent escalation clauses. In my view, Dr Woo's estimate should be preferred to Assoc Prof Tay's estimate of $5 *per* sq ft, which is based only on the five pre-commitment tenants and does not take into account actual transacted rates or market data. The defendant pointed out that Dr Woo's estimated market rate is highly sensitive to the rental rate in 2011 because she derived this figure based on the actual weighted contracted gross rent for Biopolis 3's tenants in 2011.[note: 340] However, the rental rates for Biopolis 3 in 2011 would provide the closest indicator of the rental rates that Biopolis 3 would have secured in 2010, given that they were rental rates for the same building and only one year apart.

215 On the other hand, I find that Assoc Prof Yu's estimate of $3.75 *per* sq ft is too low. Assoc Prof Yu's estimate was based primarily on generic islandwide business park rental rates, including industrial and business park rental indices. However, he agreed that industrial rental indices would include data from warehouses and factories, which is inappropriate as a guide to the projected rental rates that a specialised building like Biopolis 3 could command.[note: 341] I agree with the plaintiff's submission that generic islandwide business park data would yield a distorted picture of the rental rates that Biopolis 3 would be able to command since Biopolis 3 was newer, located in a premier R&D hub, equipped with sophisticated equipment and facilities, and catered to a specialised industry.[note: 342] Although Assoc Prof Yu looked at the 75th percentile rates for Science Park, he acknowledged that Science Park also included non-BMS R&D buildings.[note: 343] Having looked at this islandwide business park data and Science Park 75th percentile data, Assoc Prof Yu then used his professional judgment to arrive at the figure of $3.75 *per* sq ft. He agreed that he had not provided details of his calculations or comparative analysis in his report.[note: 344] He also agreed that the islandwide business park data and Science Park 75th percentile data were significantly lower than what a fair market rate for Biopolis 3 would be.[note: 345] Further, Assoc Prof Yu assumed that the

rental rate for Biopolis 3 would be lower than the rental rates for Biopolis 1 and Biopolis 2 simply because they were developed by the Ascendas Real Estate Investment Trust ("Ascendas REIT"), whereas Biopolis 3 was developed by the plaintiff, a private developer.[note: 346] In my view, Assoc Prof Yu did not provide any robust explanation for adopting his chosen approach and assumptions.

216 Therefore, I find that the gross monthly rental rate for the five pre-commitment tenants (occupying 35.7% of the NLA of Biopolis 3) in 2010 would have been $5.95 *per* sq ft for ICES, $6.25 *per* sq ft for Abbott, $5.55 *per* sq ft for NTU, $5 *per* sq ft for Philip Morris and $6.46 *per* sq ft for PetNet. The gross monthly rental rate for other tenants (occupying the remaining 6.8% of the NLA of Biopolis 3) in 2010 would have been $5.25 *per* sq ft.

(3) Number of months

217 As I have explained at [205]–[210] above, I do not think rent-free periods should be taken into account in calculating the plaintiff's loss of net rental revenue for 2010 under the single-year model. To ascertain the plaintiff's gross rental revenue for 2010, the gross monthly rental rate should be multiplied by 12 months less any rent-free periods.

218 For the five pre-commitment tenants, the rent-free period for NTU (which would have occupied 4.52% of Biopolis 3's NLA), Philip Morris (which would have occupied 16.88% of Biopolis 3's NLA) and PetNet (which would have occupied 4.06% of Biopolis 3's NLA) was three months; the rent-free period for ICES (which would have occupied 8.4% of Biopolis 3's NLA) was one month; and the rent-free period for Abbott (which would have occupied 1.84% of Biopolis 3's NLA) was four months.[note: 347] For other tenants, I accept Assoc Prof Yu's and Assoc Prof Tay's estimate that the typical rent-free fitting-out period is three months.[note: 348]

219 Hence, for each of the five pre-commitment tenants, the space they would have occupied should be multiplied by the applicable gross monthly rental rate and thereafter multiplied by the difference between 12 months and the rent-free period for each pre-commitment tenant. For other tenants, the space they would have occupied (6.8%) should be multiplied by the gross monthly rental rate ($5.25 *per* sq ft) and thereafter multiplied by nine months (this being the difference between 12 months and the rent-free period of three months).

(4) Net revenue margin

220 To determine the plaintiff's loss of *net* rental revenue for 2010, the appropriate net revenue margin must be applied to account for the expenses that the plaintiff would have had to incur to earn its rental revenue.

(A) The experts' projected net revenue margins

221 Mr Toh estimated a projected net revenue margin of 49.3% for 2010 using the following method. First, he arranged the actual occupancy rates achieved by Biopolis 3 and the plaintiff's actual net revenue margins on a scale. Mr Toh then mapped the projected occupancy rates for Biopolis 3 onto this scale to determine the corresponding projected net revenue margin for each projected occupancy rate.[note: 349] The actual net revenue margins used by Mr Toh take into account the plaintiff's cost of sales (including holding costs) in each year except for 2010, as the plaintiff specifically instructed Mr Toh to exclude the cost of sales incurred in the year ended 31 December 2010.[note: 350] On the basis of his estimate that Biopolis 3 would have achieved a first-

year occupancy rate of 35% in 2010 if there had been no delay in completion, Mr Toh derived a net revenue margin of 49.3% for 2010.[note: 351]

222 On the other hand, Assoc Prof Yu applied a net revenue margin of 85%. He simply deducted 15% from the plaintiff's gross rental revenue, representing the applicable property tax.[note: 352]

223 As for Assoc Prof Tay, in his final calculations, he adopted a projected net revenue margin of 52%. This is based on the average of the plaintiff's actual net revenue margins from 2012 to 2017 (excluding 2011 as the plaintiff's net revenue margin in its first year of actual operation was -383%), which is in turn based on actual cost of sales data for Biopolis 3 taken from the plaintiff's audited financial statements.[note: 353]

(B) My findings

224 In my view, the plaintiff's actual net revenue margins and actual cost of sales data would provide a more accurate indicator of the net revenue margin it would have achieved in 2010. Assoc Prof Yu's approach of deducting only 15% for property tax would incorrectly estimate the plaintiff's net rental revenue by not taking into account the other variable costs the plaintiff would have had to incur. As Assoc Prof Tay observed, Assoc Prof Yu did not account for marketing costs such as commissions payable to brokers and advertising expenses, which could be substantial. He also did not consider holding costs. Furthermore, property tax is often computed as a fraction of *net* rental income, whereas Assoc Prof Yu applies a deduction of 15% from the plaintiff's *gross* rental income.[note: 354] However, Mr Toh's estimated net revenue margin of 49.3% is based on an occupancy rate of 35% in 2010. As I have explained at [185]–[193] above, I am of the view that Biopolis 3's likely first-year occupancy rate in 2010 would have been approximately 42.5%. Hence, on Mr Toh's own calculations, the plaintiff's net revenue margin should be higher than 49.3% (which is based on 35% occupancy) but lower than 52.9% (which is based on 51.7% occupancy).

225 Further, Assoc Prof Tay explained that his estimated net revenue margins are based on the actual cost of sales data for Biopolis 3 to reflect the plaintiff's actual efficiency in marketing, managing and maintaining Biopolis 3. However, Assoc Prof Tay reconstructed this data from the plaintiff's audited financial statements to exclude straight-lining, which is included in Mr Toh's estimated net revenue margins.[note: 355] As explained at [199] above, straight-lining distributes the effect of rent-free periods and rent escalation clauses evenly over the duration of the lease.

226 In these circumstances, I adopt Assoc Prof Tay's estimated net revenue margin of 52%. As I have found that the effect of rent-free periods and rent escalation clauses should not be taken into account *via* straight-lining in determining the projected gross monthly rental rates for Biopolis 3 in 2010, the plaintiff's estimated net revenue margins should also not be straight-lined, in the interests of consistency. Further, Assoc Prof Tay's decision to exclude the plaintiff's net revenue margin of -383% for 2011 is defensible. I agree with Assoc Prof Tay's explanation that, if this figure were included, it would distort the average net revenue margin and even result in a negative figure (*ie*, approximately -10.3%).[note: 356] In my view, it would be unrealistic to apply a negative net revenue margin. The negative net revenue margin of -383% for 2011 was a result of the extremely low actual revenue earned by the plaintiff in that year, in which it achieved an actual occupancy rate of only 12.9%.[note: 357] Given that I have found that the projected first-year occupancy rate for Biopolis 3 in 2010 was 42.5%, its rental revenue in this scenario would not have been so low as to generate a net revenue margin anywhere close to -383%. Hence, I concur with Assoc Prof Tay's approach of taking the average of the plaintiff's actual net revenue margins from 2012 to 2017 only.

(5) Conclusion on the application of the single-year model

227 Applying the above parameters, the plaintiff's loss of net rental revenue under the single-year model is $4,056,711.62. A summary of the parameters adopted is set out in the table below.

| Variable | Value |
|---|---|
| First-year occupancy rate in 2010 | 42.5% |
| NLA | 357,154 sq ft |
| Gross monthly rental rate in 2010 | $5.95 *per* sq ft for ICES<br>$6.25 *per* sq ft for Abbott<br>$5.55 *per* sq ft for NTU<br>$5 *per* sq ft for Philip Morris<br>$6.46 *per* sq ft for PetNet<br>$5.25 *per* sq ft for other tenants |
| Number of months (excluding rent-free periods) | 8 months for Abbott<br>9 months for NTU, Philip Morris and PetNet<br>11 months for ICES<br>9 months for other tenants |
| Net revenue margin for 2010 | 52% |
| **Plaintiff's loss of net rental revenue** | **$4,056,711.62** |

228 The sum of $4,056,711.62 represents the plaintiff's loss of net rental revenue for the whole of 2010 (*ie*, 365 days). As the actual period of delay was 334 days, the plaintiff's loss of net rental revenue for the period of delay is (334/365) × $4,056,711.62, *ie*, $3,712,168.99. Since the defendant was responsible for 161 out of 334 days of delay, the loss of net rental revenue for which the defendant is liable is (161/334) × $3,712,168.99, *ie*, $1,789,398.82 (approximately $1.79m).

| | |
|---|---|
| Damages for loss of net rental revenue under the single-year model | **$1,789,398.82** |

229 For comparison, I set out below Assoc Prof Yu and Assoc Prof Tay's quantifications of the plaintiff's loss of net rental revenue (as apportioned for the defendant's delay) under the single-year model. Mr Toh and Dr Woo were not asked to provide their quantifications of the plaintiff's loss of net rental revenue under the single-year model. Further, Mr Toh did not provide estimates of Biopolis 3's first-year occupancy rate (for the whole of 2010) and Dr Woo did not provide an estimate of Biopolis 3's net revenue margin for 2010. Nevertheless, I have included estimated computations based on their other chosen parameters, with the first-year occupancy rate I have found at [193] above (for Mr Toh) and the net revenue margin I have accepted at [226] above (for Dr Woo).

| | **Estimates** |
|---|---|
| Mr Toh<br>(applying a first-year occupancy rate of 42.5%) | $2,222,125.01 |
| Dr Woo<br>(applying Dr Woo's estimated total gross rental revenue for 2010[note: 358] and a net revenue margin of 52%) | $2,925,989.92 |
| Assoc Prof Yu | $673,773.22[note: 359] |
| Assoc Prof Tay | $1.474m[note: 360] |

230 I note that a simple average of the computations above is approximately $1.82m. This comes very close to the figure of $1,789,398.82 which I have arrived at (at [228] above).

*Application of the multi-year model*

231 For the reasons explained at [111]–[128] above, the single-year model provides the fairest and most appropriate method of quantifying the plaintiff's loss of net rental revenue in the present proceedings. However, as the parties and their experts devoted considerable time to the multi-year model, I shall now consider the quantification of the plaintiff's loss of net rental revenue under the multi-year model. Nevertheless, I wish to reiterate my finding that the plaintiff's claim for loss of net rental revenue based on the multi-year model infringes the principles on remoteness of damage as the post-completion loss of net rental revenue suffered by the plaintiff is too remote to be recoverable.

232 The multi-year model quantifies the plaintiff's loss of net rental revenue based on a comparison between the projected net rental revenue that the plaintiff would have earned in the No-Delay Scenario and either (a) the *actual* net rental revenue that the plaintiff *did* earn in the Delay Scenario, or (b) the *projected* net rental revenue that the plaintiff *should have* earned in the Delay Scenario. I shall first address the issue of whether actual or projected net rental revenue should be adopted as the comparator in the Delay Scenario, before considering the appropriate parameters to adopt in the No-Delay Scenario and the Delay Scenario.

(1) Methodology – actual or projected rental revenue in the Delay Scenario?

233 The plaintiff's initial approach was to rely on actual data from Biopolis 3 as far as possible.[note: 361] Its expert, Mr Toh, suggested that the plaintiff's projected net rental revenue in the No-Delay Scenario should be compared with the plaintiff's *actual* net rental revenue in the Delay Scenario.[note: 362] However, Mr Toh also acknowledged that if the plaintiff is found to have failed to make all reasonable efforts to maximise the take-up rate of tenants in Biopolis 3 after the delay, he would apply what he labels as the "inadequate mitigation scenario", which is instead based on the plaintiff's "hypothetical" rental revenue.[note: 363]

234 On the other hand, the defendant submits that the plaintiff's actual net rental revenue cannot be used as a basis for comparison.[note: 364] The defendant argues that Mr Toh's methodology is

problematic because it erroneously assumes that the delay in the completion of Biopolis 3 is the *only* explanation for the difference between the plaintiff's projected net rental revenue and its actual net rental revenue. This assumption is unrealistic because the actual net rental revenue earned by the plaintiff was dependent solely on other factors which the defendant had no influence over, such as the plaintiff's own actions, including its pricing strategy and its marketing strategy.[note: 365] Hence, the defendant's expert, Assoc Prof Yu, opined that the plaintiff's projected net rental revenue in the No-Delay Scenario should be compared with the plaintiff's *projected* net rental revenue in the Delay Scenario.[note: 366]

235 In my view, Assoc Prof Yu's methodology should be preferred in this regard. As a matter of principle, it cannot be assumed that the difference between the plaintiff's projected net rental revenue and its actual net rental revenue is wholly attributable to the delay. To compare like with like, the plaintiff's projected net rental revenue in the No-Delay Scenario should be compared with its projected net rental revenue in the Delay Scenario, especially when there was an undue delay in reaching stabilised occupancy in this case.

236 This conclusion is buttressed by the fact that both the plaintiff's experts and Assoc Prof Tay also agreed that the actual time taken for Biopolis 3 to reach stabilised occupancy was longer than was reasonable.[note: 367] It is not disputed that in the Delay Scenario, Biopolis 3 was deemed to have achieved stabilised occupancy in December 2017, approximately six years and 11 months after it was completed in January 2011. Mr Toh's position is that a reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario was four years from 2011.[note: 368] Dr Woo and Mr Yeo opined that a reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario was approximately five and a half years from 2011.[note: 369] Assoc Prof Tay opined that a reasonable time would have been five years from 2011,[note: 370] while Assoc Prof Yu opined that it should have taken three years to reach stabilised occupancy for a Delay Scenario. This suggests that Biopolis 3 took longer to reach stabilised occupancy than was reasonable in the Delay Scenario and that this was attributable to reasons other than the delay. Indeed, it suggests that the plaintiff did not take all reasonable steps to mitigate its loss of net rental revenue.[note: 371] In particular, the plaintiff's pricing strategy may have been unduly optimistic. The plaintiff submits that its asking rental rates were fair and within market expectations, particularly in view of the "premier nature of and ecosystem within" the Biopolis business park. The plaintiff also mentioned that the asking rental rates were similar to the annual values computed by IRAS.[note: 372] However, Biopolis 3's asking rental rates were consistently higher than those of other comparable developments.[note: 373] Several potential tenants informed the plaintiff that the rates were high, with one tenant mentioning that the rates were "shocking given the current economic conditions". [note: 374] Even after the plaintiff revised its proposal, this tenant still found Biopolis 3 "unattractive" because its rental rates were 33% more expensive than their alternative option.[note: 375] I may accept that asking rental rates will generally be higher than the actual transacted rates[note: 376] and that the plaintiff was prepared to lower its asking rental rates in the course of negotiations.[note: 377] However, I agree with the defendant's submission that a high asking rental rate may itself make the building less attractive to potential tenants.[note: 378] The plaintiff argues that the vast majority of potential tenants had no issues with its asking rental rates as they did not raise similar concerns.[note: 379] However, this argument fails to consider that these potential tenants may have simply disengaged from the negotiations without seeing the need to expressly comment on the plaintiff's asking rental rates. In these circumstances, comparing the plaintiff's projected net rental revenue in the No-Delay Scenario with its *actual* rental revenue in the Delay Scenario may over-estimate the loss caused to the plaintiff *by the delay*.

237 Therefore, for the Delay Scenario, I shall consider the appropriate parameters for ascertaining the plaintiff's *projected* net rental revenue, and not its actual net rental revenue. This approach is supported by the experts' concurrence that, in the event that the court determines that the plaintiff has not adequately mitigated its loss in the Delay Scenario, projected net revenue should be considered instead of actual net revenue.[note: 380]

(2) Stabilised occupancy

238 In both the No-Delay Scenario and the Delay Scenario, the level of stabilised occupancy for Biopolis 3 must first be ascertained.

239 On the one hand, the plaintiff submits that the stabilised occupancy level for Biopolis 3 was 90%.[note: 381] The plaintiff's experts all opined that the stabilised occupancy level was 90%. For Mr Toh, this was based on the median occupancy rates of comparable properties (including Biopolis 2, the Gemini and the Capricorn) over the period from 2003 to 2019.[note: 382] For Dr Woo and Mr Yeo, the introduction to their joint expert report simply stated that they would express a view on the number of years that it would have taken Biopolis 3 to reach a stabilised occupancy level of 90%.[note: 383] This suggests that a stabilised occupancy level of 90% was one of the premises that they were instructed to proceed on. During the trial, Dr Woo acknowledged that the average occupancy rate for One-North (which included Biopolis 1, Biopolis 2, Fusionopolis and Mediapolis) over this period was around 86%,[note: 384] but maintained that a stabilised occupancy level of 90% was justified for Biopolis 3 because the Gemini and the Capricorn (which are located in Science Park) achieved stabilised occupancy levels of around 90%.[note: 385]

240 On the other hand, the defendant submits that the stabilised occupancy level for Biopolis 3 was 80 to 85%.[note: 386] This was based on Assoc Prof Yu's opinion that Biopolis 3's stabilised occupancy level was likely to be around 80 to 85%.[note: 387] During the second experts' caucus, Assoc Prof Yu adopted the specific figure of 85%.[note: 388] This was based on his analysis of supply and demand for business park space. During the trial, Assoc Prof Yu explained that he had conducted market comparisons, but the figure of 85% was ultimately based on his feel or judgment rather than analytical computations.[note: 389] While he acknowledged that Biopolis 1 and Biopolis 2 had achieved nearly 100% occupancy,[note: 390] he opined that Biopolis 3's stabilised occupancy level would be lower because Biopolis 1 and Biopolis 2 were developed by Ascendas REIT, which would "always strive and achieve maximum occupancy and high rents, because that's the objective to the shareholders". In contrast, private developers such as the plaintiff might have different objectives.[note: 391]

241 Assoc Prof Tay was of the view that Biopolis 3's stabilised occupancy level was 85%. He noted that Assoc Prof Yu had relied on generic market-level business park data and that specific evidence relating to specialised BMS facilities (such as that taken into account by Mr Toh) would be a more reliable indicator of the stabilised occupancy level for Biopolis 3. In particular, Assoc Prof Tay noted that the available data for Biopolis 2 indicated extremely high occupancy rates of close to 100% and that the data cited by Mr Toh supported a stabilised occupancy level of 90%. Further, government support for the BMS sector would generally enable specialised BMS buildings to outperform other generic buildings in terms of attracting tenants. However, Assoc Prof Tay then reduced the stabilised occupancy level from 90% to 85% to account for the volatility of the BMS sector.[note: 392]

242 I agree with the plaintiff's experts that Biopolis 3's stabilised occupancy level was 90%. In my

view, Assoc Prof Yu's figure of 85% is low as it is based on generic business park data and therefore does not capture the particular characteristics of the BMS R&D sector. I agree with the plaintiff's submission that generic islandwide business park data would not be representative of the stabilised occupancy level that Biopolis 3 would be able to achieve as Biopolis 3 was newer, located in a premier R&D hub, equipped with sophisticated equipment and facilities, and catered to a specialised industry.[note: 393] Further, as I have explained at [175]–[183] above, I accept that demand for BMS R&D space is relatively stable notwithstanding general economic conditions because of the highly specialised nature of this sector. Hence, I do not think it is necessary to reduce the stabilised occupancy level from 90% to 85% to account for the volatility of the BMS sector, as Assoc Prof Tay has done.

243 Incidentally, I note that a stabilised occupancy level of 90% is supported by the fact that Biopolis 3 achieved an occupancy rate of 96.6% in 2018.[note: 394] Information on Biopolis 3's occupancy rates for the years after 2018 was not available to me in these proceedings and I was, therefore, unable to ascertain if Biopolis 3 *maintained* an occupancy rate of 90% and above in subsequent years. Nevertheless, this empirical data supports my conclusion that Biopolis 3, like Biopolis 1 and Biopolis 2, was likely to achieve a stabilised occupancy level relatively close to 100%.

(3) Time taken to achieve stabilised occupancy

(A) No-Delay Scenario

244 In the No-Delay Scenario, both parties and their experts agree that it would have taken Biopolis 3 four years from January 2010 to reach stabilised occupancy, albeit that they adopted different stabilised occupancy levels as their endpoints (as explained above).[note: 395] Mr Toh, Dr Woo and Mr Yeo opined that it would have taken Biopolis 3 four years to reach a stabilised occupancy level of 90%,[note: 396] while Assoc Prof Yu opined that it would have taken four to five years to reach a stabilised occupancy level of 80–85%.[note: 397]

245 In view of the general consensus among the experts, I shall proceed on the basis that it would have taken Biopolis 3 four years to reach stabilised occupancy in the No-Delay Scenario. This is consistent with the position taken by both parties.[note: 398] In other words, in the No-Delay Scenario, Biopolis 3 would have reached stabilised occupancy in January 2014.

(B) Delay Scenario

246 As explained at [236] above, I shall put aside the actual time taken for Biopolis 3 to reach stabilised occupancy (*ie*, six years and 11 months from completion in January 2011) as the plaintiff's experts and Assoc Prof Tay agreed that this was longer than the reasonable time. This suggests that the actual time taken for Biopolis 3 to reach stabilised occupancy was at least partly attributable to factors other than the delay in completion, such as the plaintiff's marketing strategy and pricing strategy. In my view, it would not be fair to hold the defendant liable for the losses suffered by the plaintiff as a result of these factors, which were wholly beyond the defendant's control.

247 Indeed, the fact that Biopolis 3 took longer than the reasonable time to achieve stabilised occupancy suggests that the plaintiff did not take all reasonable steps to mitigate its losses. It is well established that a plaintiff must take all reasonable steps to mitigate the loss it suffered as a result of a defendant's breach, and cannot recover damages for any loss which it could have avoided but failed to avoid due to its own unreasonable action or inaction (see *Alvin Nicholas Nathan v Raffles Assets (Singapore) Pte Ltd* [2016] 2 SLR 1056 ("*Alvin Nicholas Nathan*") at [17] and *Tembusu Growth Fund*

*Ltd v ACTAtek, Inc and others* [2018] 4 SLR 1213 ("*Tembusu Growth Fund*") at [138]–[139]). What is reasonable in each case must be assessed with "a sense of commercial reality and with a sensitivity to the facts of the case" (*Tembusu Growth Fund* at [139]). I accept Mr Leow's evidence that the plaintiff's aim as the developer of Biopolis 3 was to secure tenants and fill up Biopolis 3 as quickly as possible.[note: 399] However, bearing in mind commercial reality, the plaintiff's failure to reach stabilised occupancy within a reasonable time notwithstanding the delay suggests that it may have erred in its marketing strategy and pricing strategy, or may have failed to adjust these strategies appropriately in response to the circumstances.

248 However, the parties' experts disagree on what precisely would have been a reasonable time for Biopolis 3 to reach stabilised occupancy in the Delay Scenario. I shall now address this issue.

*(I) The experts' views*

249 The plaintiff submits that the reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario was five and a half years, relying primarily on Dr Woo and Mr Yeo's assessment.[note: 400] On the other hand, the defendant submits that it was three years, relying on Assoc Prof Yu's assessment.[note: 401]

(A) MR TOH – FOUR YEARS

250 Mr Toh opined that a reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario was four years from 2011.[note: 402] This was analysed by Mr Toh under his "inadequate mitigation scenario", *ie*, his computation of the plaintiff's loss of net rental revenue under the multi-year model in the event that the court determines that the plaintiff did not take sufficient steps to mitigate its losses.[note: 403] This was based on the premise that the take-up rate of tenants for Biopolis 3 should be consistent with the projected period required for Biopolis 3 to achieve stabilised occupancy in the No-Delay Scenario (*ie*, four years).[note: 404]

(B) DR WOO AND MR YEO – FIVE AND A HALF YEARS

251 Dr Woo and Mr Yeo opined that a reasonable time was five and a half years from 2011. In other words, in view of the delay, it was reasonable for Biopolis 3 to take one and a half years longer to achieve stabilised occupancy than it would have if it had been completed on time.[note: 405] Dr Woo and Mr Yeo gave two reasons for this assessment.

252 First, the delay in the completion of Biopolis 3 to 2011 coincided with the award of the tender for Biopolis 5 in March 2011.[note: 406] Biopolis 3 and Biopolis 5 are very similar assets in close proximity and would have targeted the same set of potential tenants. Based on market practices and industry norms, marketing outreach normally starts three to six months after the award of the tender. Therefore, Biopolis 5 was in direct competition with Biopolis 3 soon after the former was announced. This competition would have significantly tempered demand for Biopolis 3 and prolonged the time taken for it to achieve stabilised occupancy. In contrast, if Biopolis 3 had been completed on time in January 2010, the plaintiff would have enjoyed monopolistic marketing advantages for at least around one year (from January 2010 to March 2011), with no known new competitor.[note: 407]

253 Second, the loss of the five pre-commitment tenants at an advanced stage of negotiations resulted in little to no pre-commitment for Biopolis 3. This had a consequent impact on leasing momentum and prolonged the time taken for Biopolis 3 to achieve stabilised occupancy. In contrast, a

high pre-commitment rate would have generated good publicity and provided confidence for other prospective tenants to consider leasing unit space in Biopolis 3.[note: 408] In his affidavit, Mr Yeo observed that the loss of pre-commitment tenants is particularly significant for highly specialised developments like Biopolis 3 as prospective tenants for such developments may have specialised requirements, such as a vivarium (a laboratory for animal testing)[note: 409] or a cyclotron (for dealing with radioactive materials).[note: 410] After such a tenant is lost, it may be challenging for a landlord to find a replacement tenant with similar requirements.[note: 411]

(c) Assoc Prof Yu – three years

254 Assoc Prof Yu opined that a reasonable time was only three years from 2011.[note: 412] In other words, Biopolis 3 would have reached stabilised occupancy at the same time (*ie*, January 2014) regardless of whether there was a delay in its completion. This is because the occupancy rate of business parks was at its lowest in January 2010 due to economic conditions such as the GFC, and occupancy rates only recovered from 2011 onwards. Hence, if Biopolis 3 had been completed on time in January 2010, demand for Biopolis 3 would have been low and the plaintiff's marketing efforts would have been severely affected by weak market conditions and sentiments. Assoc Prof Yu suggests that the delay in completion, counterintuitively, helped Biopolis 3 to achieve higher occupancy rates.[note: 413]

(d) Assoc Prof Tay – five years

255 Assoc Prof Tay opined that a reasonable time was five years from 2011.[note: 414] He took into account three factors.

256 First, he agreed with Dr Woo and Mr Yeo that the loss of the five pre-commitment tenants may have turned other prospective tenants away and prolonged the time needed to achieve stabilised occupancy.[note: 415]

257 Second, he noted that the award of the tender for Biopolis 5 coincided with the delayed completion of Biopolis 3. He noted that this could have exerted a negative impact on marketing outcomes for Biopolis 3. Biopolis 5 would offer a competing product to prospective BMS tenants, albeit this would mainly apply to tenants with longer-term space needs as Biopolis 5 was only expected to be completed in 2013. Since the tender for Biopolis 5 was awarded to Ascendas Venture, a more well-known industrial developer, prospective tenants might have opted for Biopolis 5 instead of Biopolis 3. This would also prolong the time needed to reach stabilised occupancy.[note: 416]

258 Third, despite generic business park market data showing an improvement in market conditions, the BMS environment remained challenging in 2011.[note: 417]

259 However, Assoc Prof Tay was of the view that the impact of the loss of the five pre-commitment tenants and the award of the tender for Biopolis 5 was not as significant as Dr Woo and Mr Yeo had claimed.[note: 418] Hence, he estimated that a reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario was five years from 2011.

*(II) My findings*

260 In my view, the reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay

Scenario was four years from its completion in January 2011. In other words, for the purposes of the multi-year model, the reasonable number of years taken for Biopolis 3 to reach stabilised occupancy should be the same in both the Delay Scenario and the No-Delay Scenario. In the Delay Scenario, Biopolis 3 should have reached stabilised occupancy in January 2015.

(A) IMPACT OF THE LOSS OF THE FIVE PRE-COMMITMENT TENANTS ON LEASING MOMENTUM

261 First, the impact of the loss of the five pre-commitment tenants on leasing momentum for other prospective tenants is remote. While I have found that the loss of the five pre-commitment tenants *themselves* was caused primarily by the delay in the completion of Biopolis 3, the impact of the delay on the plaintiff's ability to secure *other* prospective tenants is far more tenuous. In my view, the loss of leasing momentum caused by the loss of pre-commitment tenants is not a loss which flowed naturally from the delay. Further, while the plaintiff argues that the defendant knew that there were prospective tenants who had expressed interest in leasing units in Biopolis 3,[note: 419] the plaintiff has not shown that the defendant had special knowledge of the impact of the delay on leasing momentum. I, therefore, find that this factor does not extend the reasonable time for Biopolis 3 to achieve stabilised occupancy. The prolongation of the time needed for Biopolis 3 to achieve stabilised occupancy as a result of this loss of leasing momentum is not a loss for which the defendant "can fairly be held liable" (*Out of the Box* at [47]).

262 Second, the impact of the loss of the five pre-commitment tenants on other prospective tenants may not be as significant as the plaintiff's experts suggest. Other prospective tenants may not have known about Biopolis 3's lack of pre-commitment tenants if neither the plaintiff nor these five pre-commitment tenants made any public announcements that they would not be leasing space in Biopolis 3. Furthermore, I agree with the defendant's submission that as the progress of the construction moved towards completion on 22 December 2010, the parties would have been aware that completion was approaching and the plaintiff would have been in a position to secure other tenants to commence leases in or around January 2011.[note: 420] While I appreciate that Biopolis 3 is a specialised development with a limited pool of potential tenants, Assoc Prof Tay agreed that the loss of the five pre-commitment tenants did not mean that the plaintiff could not have found alternative tenants. The plaintiff would have known in advance that Biopolis 3 was about to be completed and could have taken steps to boost its leasing momentum notwithstanding the delay.[note: 421] Indeed, as at July 2011, the plaintiff claimed to be "in advance[d] negotiation[s] with prospects … which will constitute up to approximate[ly] 50% occupancy rate subject to execution of tenancy".[note: 422]

263 Hence, in my view, the impact of the loss of the five pre-commitment tenants on Biopolis 3's leasing momentum was less significant than the plaintiff claims. After the completion date became more certain, and after completion, the plaintiff could have found alternative tenants to take over the space which would have been leased by the five pre-commitment tenants.

(B) IMPACT OF COMPETITION WITH BIOPOLIS 5

264 I accept that Biopolis 5 was a serious competitor for tenants with Biopolis 3, given the highly specialised nature and location of these two developments. Indeed, the competitive threat of Biopolis 5 would not have only begun after the tender was awarded in March 2011 or after the award of the tender was announced in May 2011. The competitive threat posed by Biopolis 5 would have existed (albeit to a smaller degree) from the time it was announced by JTC Corporation in June 2010,[note: 423] and especially after the marketing for Biopolis 5 commenced. As Mr Yeo observed, the marketing of a new building begins even before it is completed to create awareness among potential

tenants.[note: 424] Assoc Prof Tay estimated that the promotion of Biopolis 5 would likely have started around one and a half years before its completion.[note: 425] However, the impact of the delay resulting in competition from Biopolis 5 cannot be considered significant or substantial. Competition with similar developments on the market is an inevitable vicissitude of the property development industry to which property developers must adapt by adjusting their pricing and marketing strategies as appropriate. Even if there was no delay in the completion of Biopolis 3, the plaintiff would have had to face competition from Biopolis 5 soon after its contractual completion in January 2010 as JTC Corporation's announcement about Biopolis 5 was made in June 2010. Indeed, Dr Woo acknowledged that the tempering of demand for space in Biopolis 3 due to Biopolis 5 would have happened regardless of whether there was a delay in its completion.[note: 426] Similarly, Assoc Prof Tay agreed that any effect of Biopolis 5 on Biopolis 3's occupancy levels from 2011 to end-2013 would have been quite minimal.[note: 427]

265 The plaintiff submits that, at the time of the announcement in June 2010, there was no guarantee that the land tender for Biopolis 5 would be awarded because the bids placed might not meet the minimum reserve price and other requirements of the tender.[note: 428] However, for tenants who did not require unit space immediately, the announcement of Biopolis 5 would have already created anticipation and awareness of Biopolis 5 as a potential alternative to Biopolis 3. Hence, even if the delay had not occurred, Biopolis 3 is unlikely to have enjoyed significant monopolistic advantages. Further, during her cross-examination, Dr Woo agreed that the likelihood of the tender for Biopolis 5 not being eventually awarded, and the likelihood of Biopolis 5 not being eventually built, was very low.[note: 429]

(c) Impact of the GFC

266 The impact of economic conditions such as the GFC is also not significant. Assoc Prof Yu and Assoc Prof Tay drew opposite conclusions regarding the impact of this factor: Assoc Prof Yu opined that the increased demand for business park space in 2011 would have *shortened* the time required for Biopolis 3 to achieve stabilised occupancy, whereas Assoc Prof Tay was of the view that the BMS environment remained challenging notwithstanding the improvement in generic business park market conditions, such that Biopolis 3 would have taken a *longer* time to achieve stabilised occupancy as a result of the GFC. As I have explained at [175]–[183] above, I accept that demand for BMS R&D space is relatively stable and resilient in spite of general economic conditions because of the highly specialised nature of the BMS R&D sector. Hence, I do not think that economic conditions alone would have significantly prolonged or reduced the time required for Biopolis 3 to achieve stabilised occupancy.

267 In any event, the impact of economic conditions is not substantial. As I have found at [175]–[183] above, although the GFC would have had some impact on occupancy rates for BMS R&D space, its impact is unlikely to have been as significant as the defendant contends due to the specialised nature of the BMS R&D sector. Furthermore, the impact of economic conditions on the plaintiff's loss of net rental revenue is too remote. Such loss did not flow naturally from the delay, nor did the defendant have any special knowledge that the delay would prolong the time required for Biopolis 3 to achieve stabilised occupancy because of these economic conditions. On the contrary, as I found in the Liability Judgment (HC), the plaintiff had deliberately slowed down the completion of Biopolis 3, presumably in the hope that some delay might enable Biopolis 3 to enter the market amidst more favourable economic conditions. Applying the analysis in *Out of the Box* at [47(e)], the defendant would not have considered the impact of these economic conditions on the time taken by Biopolis 3 to reach stabilised occupancy to be "foreseeable as a not unlikely consequence that [it] should be liable for".

(D) CONCLUSION ON THE TIME TAKEN TO ACHIEVE STABILISED OCCUPANCY IN THE DELAY SCENARIO

268 Hence, I am not convinced by the opinion of the experts that extending or reducing the reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario, compared to the No-Delay Scenario, is justified. The losses caused to the plaintiff by the impact of these factors are not significant and the defendant cannot fairly be held liable for them. Hence, I find that the reasonable time for Biopolis 3 to achieve stabilised occupancy in the Delay Scenario was four years from January 2011. I note that this comes close to the average of the estimates adopted by the experts, which is approximately 4.38 years.

(4) Occupancy growth trajectory

(A) No-Delay Scenario

269 On the one hand, the defendant's expert, Assoc Prof Yu, adopted what Assoc Prof Tay labelled an "exponential" projection of the growth in occupancy for Biopolis 3 in the No-Delay Scenario. Assoc Prof Yu adopted a projected starting occupancy rate of 25% in January 2010. He then assumed occupancy rates of 60% in January 2011, 75% in January 2012 and 80% in January 2013, with stabilised occupancy of 85% being reached in January 2014. This was based on Assoc Prof Yu's projection of how much space would be occupied by new tenants in each year, which he estimated to be 35% in 2011, 15% in 2012, 30% in 2013 and 40% in 2014.[note: 430]

270 I respectfully decline to adopt Assoc Prof Yu's projection of Biopolis 3's occupancy growth trajectory in the No-Delay Scenario. He did not provide any detailed explanation of the basis for his projections. As Assoc Prof Tay observed, Assoc Prof Yu's exponential projection appeared to reflect his subjective professional judgment.[note: 431] Further, in Assoc Prof Yu's projection of Biopolis 3's occupancy growth trajectory in the *Delay* Scenario, he projected an occupancy rate of 50% in 2011,[note: 432] instead of 60% for the same year in the No-Delay Scenario, even though the market conditions in that year would have been the same across both the No-Delay Scenario and the Delay Scenario. His only explanation for this disparity seemed to be that a new building in its first year of occupancy in 2011 would have achieved 50% occupancy, whereas a second-year building would not have achieved more than 60% occupancy.[note: 433] In my view, Assoc Prof Yu has not sufficiently explained why a difference of one year would have affected the occupancy level of Biopolis 3 in the way he posited. On the contrary, Assoc Prof Tay assessed that a difference of one year was unlikely to cause such a significant difference in the occupancy level.[note: 434] This detracts from the accuracy of Assoc Prof Yu's projected occupancy growth trajectory. In its reply submissions, the defendant posited that this difference in the occupancy level was because of a difference in leasing momentum in the two scenarios.[note: 435] However, this was not the explanation given by Assoc Prof Yu at the trial.

271 On the other hand, the plaintiff's experts adopted a straight-line projection of the growth in occupancy for Biopolis 3 in the No-Delay Scenario. This involves drawing a straight line from Biopolis 3's projected starting occupancy rate in January 2010 (*ie*, 35.7%) to Biopolis 3's stabilised occupancy level in January 2014 (*ie*, 90%) and then interpolating the occupancy rates for each intervening year from 2011 to 2013. I accept Assoc Prof Tay's evidence that this straight-line interpolation method is widely used.[note: 436] I also agree with Dr Woo's observation that, while the straight-line interpolation method may not be fully accurate as a reflection of the actual occupancy rates achieved in each year, it is the most neutral method of projecting these occupancy rates in the

absence of data on the occupancy growth trajectories for comparable buildings.[note: 437] Further, I accept the plaintiff's submission that this straight-line interpolation method is especially fair and reasonable where information on the likely growth profile of the occupancy rates for the intermediate years (between the first year and the year in which stabilised occupancy is achieved) is not readily available, as it removes the uncertainty as to what the likely growth profile would be (for example, whether it would be convex or concave, regular or irregular, steep or gentle).[note: 438]

272 Applying this straight-line interpolation method, Dr Woo estimated that the occupancy rates Biopolis 3 would have achieved in each year of the No-Delay Scenario are as follows: 35.7% in January 2010, 49.3% in January 2011, 62.9% in January 2012, 76.4% in January 2013 and 90% in January 2014.[note: 439] I pause here to note that, while Mr Toh and Assoc Prof Tay applied the same straight-line interpolation method, they arrived at different figures from Dr Woo because they adopted different starting occupancy rates for January 2010 (35% for Mr Toh[note: 440] based on a rounding-down of Dr Woo's figure of 35.7% for convenience,[note: 441] and 30% for Assoc Prof Tay)[note: 442] and different stabilised occupancy levels (85% for Assoc Prof Tay).[note: 443] As I have found that the starting occupancy rate Biopolis 3 would have achieved in January 2010 in the No-Delay Scenario was 35.7% (see [149]–[171] and [185] above) and that its stabilised occupancy level is 90% (see [242]–[243] above), I shall use Dr Woo's figures in ascertaining the projected occupancy rates Biopolis 3 would have achieved in each year of the No-Delay Scenario.

273 I pause here to note that the starting occupancy rate which should be used is 35.7%, and not 42.5% which I have found to be the projected first-year occupancy rate under the single-year model (at [193] above). This is because the figure of 42.5% is the average of Biopolis 3's projected occupancy rate at the start of 2010 and its projected occupancy rate at the start of 2011. It, therefore, represents Biopolis 3's occupancy rate across the *whole* of 2010. Meanwhile, the figure of 35.7% represents Biopolis 3's *starting* occupancy rate as at *January* 2010. As I have found that Biopolis 3 would have reached stabilised occupancy in January 2014 in the No-Delay Scenario (see [245] above), it would be appropriate to use the occupancy rates that would have been achieved in January of each year. Hence, for the purposes of the multi-year model, I reject the plaintiff's submission that the yearly occupancy rates should be derived by averaging the occupancy rate for January of a particular year with the occupancy rate for January of the following year.[note: 444]

274 Hence, I find that the occupancy rates Biopolis 3 would have achieved in each year of the No-Delay Scenario, using the straight-line interpolation method, are as follows: 35.7% in January 2010, 49.3% in January 2011, 62.9% in January 2012, 76.4% in January 2013 and 90% in January 2014. As I have found (at [242]–[243] above) that Biopolis 3's stabilised occupancy level is 90%, this would also be its projected occupancy rate for January 2015.

(B) Delay Scenario

275 In the Delay Scenario I also adopt the straight-line projection of occupancy growth for Biopolis 3 used by the plaintiff's experts, which I have accepted for the purposes of the No-Delay Scenario at [271]–[274] above. I have found that stabilised occupancy of 90% should have been reached in four years from January 2011, *ie*, by January 2015 (see [260]–[268] above). Therefore, the occupancy rates that Biopolis 3 would have achieved in each year of the Delay Scenario depend on its projected starting occupancy rate for January 2011.

276 Both Mr Toh and Assoc Prof Tay adopted the same starting occupancy rate for January 2011 in the Delay Scenario as for January 2010 in the No-Delay Scenario, *ie*, 35% for Mr Toh (based on a

rounding-down of Dr Woo's figure of 35.7% representing the five pre-commitment tenants)[note: 445] and 30% for Assoc Prof Tay.[note: 446] On the other hand, Assoc Prof Yu suggested that the starting occupancy rate for January 2011 would be 50%.[note: 447] During the trial, he explained that his analysis showed that if Biopolis 3 had been completed in 2011, a new building in its first year of operation would be able to attract up to 50% starting occupancy as the market would have recovered from the effects of the GFC by this time.[note: 448]

277 Between the two sets of views offered by the experts, I prefer Mr Toh and Assoc Prof Tay's projected starting occupancy rates for January 2011, save that I adopt a rate of 35.7%. This was the projected starting occupancy rate for January 2010 that Dr Woo adopted in the No-Delay Scenario, on the premise that the five pre-commitment tenants would have leased 35.7% of Biopolis 3's NLA if the delay in completion had not occurred. Although the five pre-commitment tenants would not have been Biopolis 3's starting occupants in the Delay Scenario, I am of the view that the figure of 35.7% provides a good gauge of the starting occupancy level that Biopolis 3 would have secured in January 2011 in the Delay Scenario. As I have explained at [175]–[183] above, I do not think that the GFC would have had as significant an impact on the occupancy rates of BMS R&D developments as Assoc Prof Yu suggests. I, therefore, find Assoc Prof Yu's estimate of 50% starting occupancy in January 2011 unrealistic.

278 These findings mean that the occupancy trajectory Biopolis 3 would have achieved in the Delay Scenario is the same as that in the No-Delay Scenario. The occupancy rates Biopolis 3 would have achieved in each year of the Delay Scenario are, therefore, as follows: 35.7% in January 2011, 49.3% in January 2012, 62.9% in January 2013, 76.4% in January 2014 and 90% in January 2015.

(5) Gross monthly rental rates

(A) The experts' views

279 Each expert adopted the same gross monthly rental rates for each year across both the No-Delay Scenario and the Delay Scenario, save for 2010. However, the experts differed on what the appropriate rates should be.

280 Mr Toh derived his projected gross monthly rental rates from the actual rental revenue earned by the plaintiff based on its audited financial statements, and adopted the actual implied rental rate for 2011 as the projected rental rate for 2010 in the No-Delay Scenario (see [198] above). On this basis, he projected that the gross monthly rental rates for Biopolis 3 would have been $5.61 *per* sq ft for 2010 (in the No-Delay Scenario), $5.61 *per* sq ft in 2011, $5.28 *per* sq ft in 2012, $3.90 *per* sq ft in 2013, $4.92 *per* sq ft in 2014 and $4.73 *per* sq ft in 2015 (inclusive of monthly service charges).[note: 449] These rates are straight-lined over both the rent-paying and the rent-free periods under the various leases, and they include the increases in rent over time under the rent escalation clauses.[note: 450]

281 On the other hand, Assoc Prof Yu analysed the rental rates for the business park market, taking into account data from JTC Corporation and Knight Frank, 75th percentile rental rates for Science Park, and all industrial and business park rental indices. On this basis, he projected that the gross monthly rental rates for Biopolis 3 would have been $3.75 *per* sq ft in January 2010 (in the No-Delay Scenario), $4.75 *per* sq ft in January 2011, $4.95 *per* sq ft in January 2012, $4.55 *per* sq ft in January 2013 and $4.85 *per* sq ft in January 2014 (inclusive of monthly service charges of $0.65).[note: 451] Assoc Prof Yu did not provide an estimated gross monthly rental rate for January

2015 as his report focused on the period from mid-2008 to end-2014.[note: 452]

282 Assoc Prof Tay adopted the projected gross monthly rental rates used by Dr Woo and Mr Yeo in their joint expert report.[note: 453] He opined that Dr Woo and Mr Yeo's approach was the most balanced as it takes into account both the actual signed leases for Biopolis 3 and market data. Therefore, he adopted their projected gross monthly rental rates. Dr Woo and Mr Yeo projected these rental rates by ascertaining the actual weighted gross monthly rental rates contracted for by Biopolis 3's first four tenants in the fourth quarter 2011 (*ie*, $5.29 *per* sq ft) and extrapolating the gross monthly rental rates for 2010 and from 2012 onwards by applying islandwide business park gross median rental growth rates.[note: 454] For example, as islandwide business park gross median rental rates increased by 5.4% from the first quarter of 2010 to the fourth quarter of 2011, Dr Woo and Mr Yeo derived an estimated gross monthly rental rate of $5.02 *per* sq ft for Biopolis 3 in the first quarter of 2010. On this basis, Assoc Prof Tay projected that the gross monthly rental rates for Biopolis 3 in the Delay Scenario (assuming inadequate mitigation by the plaintiff) were $5.29 *per* sq ft for 2011, $5.17 *per* sq ft for 2012, $5.69 *per* sq ft for 2013, $5.55 *per* sq ft for 2014 and $5.82 *per* sq ft for 2015.[note: 455]

283 I pause here to note that Dr Woo clarified during the trial that the islandwide *75th percentile* rental growth rates should have been used instead of the islandwide *median* rental growth rates, to reflect that Biopolis 3 would be able to command higher rental rates than generic business parks.[note: 456] Using the islandwide 75th percentile rental growth rates instead, Dr Woo projected that the gross monthly rental rates for Biopolis 3 would have been $5.13 *per* sq ft in the first quarter of 2010 (in the No-Delay Scenario), $5.29 *per* sq ft in the fourth quarter of 2011, $5.20 *per* sq ft in the fourth quarter of 2012, $6.48 *per* sq ft in the fourth quarter of 2013, $5.36 *per* sq ft in the fourth quarter of 2014 and $6.03 *per* sq ft in the fourth quarter of 2015 (inclusive of service charges).[note: 457] However, these rates do not take into account the rent-free periods and rent escalation clauses in each lease.[note: 458]

(B) My findings

284 First, I wish to state that for the purposes of the multi-year model (unlike under the single-year model), rent-free periods and rent escalation clauses are taken into account in calculating the plaintiff's loss of net rental revenue. This is because the multi-year model does not focus only on the revenue that the plaintiff would have earned *in 2010* but instead looks at the revenue earned during the period up to stabilised occupancy in the Delay Scenario compared to the No-Delay Scenario. Therefore, the projected gross monthly rental rates should be straight-lined to take into account the effect of rent-free periods and rent escalation clauses. Of the three experts' estimates, only Mr Toh's projected gross monthly rental rates explicitly take into account rent-free periods and rent escalation clauses. Having said this, rent-free periods and rent escalation clauses are the product of negotiations between landlord and tenant. There is no standard industry practice in this regard.[note: 459] Hence, there is no standard or uniform way to accurately take into account the effect of rent-free periods and rent escalation clauses in ascertaining the plaintiff's projected net rental revenue.

285 Second, I agree with Assoc Prof Tay's view that the approach taken by Dr Woo and Mr Yeo is the most balanced as it takes into account both the actual signed leases for Biopolis 3 in 2011 and market data. However, I note that both Dr Woo and Mr Yeo's projected rental rates and Mr Toh's projected rental rates are derived based on the *actual* rental rates and rental revenue earned by the plaintiff. As I have explained at [235]–[237] above, I am cautious of placing too much weight on these actual figures as the actual time taken for Biopolis 3 to reach stabilised occupancy was longer

than was reasonable in the Delay Scenario. Indeed, one factor which may have prolonged the time Biopolis 3 actually took to achieve stabilised occupancy may have been the plaintiff's pricing strategy. Therefore, to compare like with like, projected figures should be used as far as possible to determine Biopolis 3's projected gross monthly rental rates.

286 In my view, the fairest approach would be to take the average of three figures: (a) the projected gross monthly rental rates proposed by Mr Toh (at [280] above); (b) the projected gross monthly rental rates proposed by Dr Woo and Mr Yeo (at [283] above); and (c) the islandwide business park 75th percentile rental rates, which were provided by Dr Woo.[note: 460] These three sets of figures are set out in the table below.

(a) With regard to item (a), I have excluded Mr Toh's projected gross monthly rental rate for 2010 (*ie*, $5.61 *per* sq ft). This is Mr Toh's actual implied rental rate for 2011, which he adopted as the projected rental rate for 2010. However, it may not be realistic to assume that the rental rate for 2010 would have been the same as the rental rate for 2011, given that Dr Woo's evidence shows that there was a 3.2% increase in islandwide 75th percentile rental rates from the first quarter of 2010 to the fourth quarter of 2011.[note: 461] Therefore, the rental rate for 2010 should be lower than the rental rate for 2011.

(b) With regard to item (c), although Assoc Prof Yu's estimated rental rates were also based on islandwide business park rental rates, I have chosen to use the islandwide business park 75th percentile rental rates provided by Dr Woo instead. This is because, as I have explained at [214] above, Assoc Prof Yu did not provide details of how he used his professional judgment to derive his estimates from this data. It may, therefore, be more accurate to use the islandwide business park 75th percentile data directly in these calculations.

| **Year** | **(a) Mr Toh's estimates** | **(b) Dr Woo's and Mr Yeo's estimates** | **(c) Islandwide business park 75th percentile rental rates** | **Average of (a), (b) and (c)** |
|---|---|---|---|---|
| 2010 | Excluded | $5.13 *per* sq ft | $4.12 *per* sq ft | $4.63 *per* sq ft |
| 2011 | $5.61 *per* sq ft | $5.29 *per* sq ft | $4.25 *per* sq ft | $5.05 *per* sq ft |
| 2012 | $5.28 *per* sq ft | $5.20 *per* sq ft | $4.18 *per* sq ft | $4.89 *per* sq ft |
| 2013 | $3.90 *per* sq ft | $6.48 *per* sq ft | $5.21 *per* sq ft | $5.20 *per* sq ft |
| 2014 | $4.92 *per* sq ft | $5.36 *per* sq ft | $4.31 *per* sq ft | $4.86 *per* sq ft |
| 2015 | $4.73 *per* sq ft | $6.03 *per* sq ft | $4.85 *per* sq ft | $5.20 *per* sq ft |

287 Hence, I find that the projected gross monthly rental rates that Biopolis 3 would have achieved in each year are as follows: $4.63 *per* sq ft in 2010 (in the No-Delay Scenario), $5.05 *per* sq ft in 2011, $4.89 *per* sq ft in 2012, $5.20 *per* sq ft in 2013, $4.86 *per* sq ft in 2014 and $5.20 *per* sq ft in 2015.

(6) Net revenue margins

288 The plaintiff submits that a net revenue margin of 52.1% should be applied across all years. 52.1% is the average of the plaintiff's actual net revenue margins for Biopolis 3 from 2012 to 2017, as determined by Mr Toh. The plaintiff contends that this average figure should be used rather than the figure from a specific year to reduce the effect of outliers (such as the breakdown of a building system which requires substantial replacement costs to be incurred).[note: 462] The defendant rejects the plaintiff's proposed net revenue margin of 52.1%.[note: 463]

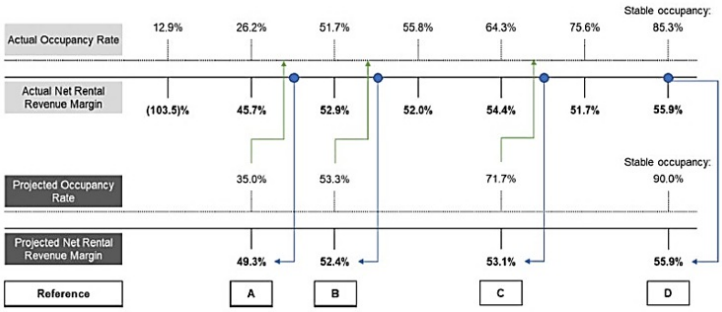
289 I am unable to accept the plaintiff's submission. For the reasons I have explained at [235]–[237] above, projected figures should be preferred over actual figures. Further, the plaintiff's submission departs from the approach of its own expert, Mr Toh (which I shall deal with at [292] below).

290 I shall now consider each expert's projected net revenue margins.

(A) The experts' views

291 As was the case in relation to the gross monthly rental rates, each expert adopted the same projected net revenue margin for each year across both the No-Delay Scenario and the Delay Scenario (save for 2010, which is addressed specifically at [221]–[223] above). However, the experts adopted different approaches to ascertaining the plaintiff's projected net revenue margins.

292 Mr Toh adopted projected net revenue margins of 49.3% for 2010, 52.4% for 2011, 53.1% for 2012 and 55.9% for each year from 2013 onwards. As explained at [221] above, the method used by Mr Toh to derive these projected net revenue margins was as follows. Mr Toh first arranged the plaintiff's actual net revenue margins and the corresponding actual yearly occupancy rates achieved by Biopolis 3 on a scale, and then mapped the projected occupancy rates for Biopolis 3 onto this scale to determine the corresponding projected net revenue margin for each projected occupancy rate.[note: 464] Since Mr Toh derived the plaintiff's actual net revenue margins based on its actual revenue and actual cost of sales for each year in its audited financial statements,[note: 465] which would have been straight-lined (see [199] above), Mr Toh's projected net revenue margins include straight-lining. It should also be noted that a higher occupancy rate does not necessarily translate directly into a higher net revenue margin in Mr Toh's scale. For example, an occupancy rate of 64.3% maps onto a net revenue margin of 54.4%, while a higher occupancy rate of 75.6% maps onto a lower net rental revenue margin of 51.7%. To illustrate this, I set out Mr Toh's scale[note: 466] below.




293 Assoc Prof Yu applied a net revenue margin of 85% across all years, based on deducting 15% from the plaintiff's gross rental revenue for property tax.[note: 467]

294 Assoc Prof Tay estimated that the plaintiff's projected net revenue margins would be 52% for 2010, -383% for 2011, 41% for 2012, 54% for 2013, 53% for 2014 and 55% for 2015. This is based

on actual data on the plaintiff's cost of sales for Biopolis 3 taken from its audited financial statements, to reflect the plaintiff's actual efficiency in marketing, managing and maintaining Biopolis 3. However, Assoc Prof Tay adjusted this data to remove straight-lining. [note: 468] To obtain the net revenue margin for 2010, Assoc Prof Tay took an average of the margins from 2012 to 2017 (excluding 2011).

(B) My findings

295 I prefer Mr Toh's method of estimating the plaintiff's projected net revenue margins compared to the methods used by Assoc Prof Yu and Assoc Prof Tay, for two reasons.

296 First, as I have explained at [224] above, the plaintiff's actual revenue margins and actual cost of sales data, which included the holding costs incurred by the plaintiff in each year except for 2010, would provide a more accurate indicator of the projected net revenue margins it would have achieved, compared to Assoc Prof Yu's approach of simply deducting 15% for property tax. The projected figures should be relied on as far as possible under the multi-year model to ascertain the time taken for Biopolis 3 to achieve stabilised occupancy, its occupancy growth trajectory and its gross monthly rental rates. However, I am of the view that the plaintiff's actual net revenue margins and actual cost of sales data (including the holding costs it incurred in each year except 2010), can be relied on to determine its projected net revenue margins. This is because Mr Toh did not simply adopt the plaintiff's actual net revenue margin for each year, but instead mapped out the plaintiff's actual net revenue margins and actual occupancy rates across various years on a scale to ascertain the relationship between the two. This provides a good gauge of the plaintiff's cost-efficiency in marketing, managing and maintaining Biopolis 3. In turn, this would yield a more accurate estimate of its projected net rental revenue.

297 As I have noted at [292] above, Mr Toh's actual net revenue margins were derived based on the plaintiff's actual cost of sales for each year in its audited financial statements. Mr Toh was only instructed by the plaintiff to exclude the cost of sales incurred by the plaintiff in 2010, which the plaintiff is claiming separately as holding costs. [note: 469] The defendant submits that it is inconsistent for Mr Toh to exclude the plaintiff's cost of sales only in 2010 while taking into account the cost of sales in subsequent years. [note: 470] However, I disagree. Mr Toh estimated his projected net revenue margins by mapping out the plaintiff's actual net revenue margins and actual occupancy rates from 2011 to 2017 on a scale. [note: 471] Since Mr Toh was only instructed to exclude the cost of sales (including the holding costs) in *2010*, the actual net revenue margins included in his scale would already have factored in the cost of sales incurred by the plaintiff in each year from 2011 to 2017. Therefore, when Mr Toh used this scale to derive the projected net rental revenue margin for 2010 (based on his projected occupancy rate of 35%), the cost of sales (which included the holding costs) was already taken into account. The inconsistency raised by the defendant only arises if the plaintiff's *actual* net rental revenue earned in 2010 (in the Delay Scenario) are compared with the plaintiff's *projected* net rental revenue that it would have earned in 2010 (in the No-Delay Scenario). As I have found that the plaintiff's *projected* net rental revenue in the Delay Scenario should be compared with its projected net rental revenue in the No-Delay Scenario, the cost of sales incurred by the plaintiff are taken into account consistently in both scenarios.

298 Second, I have found that the effect of rent-free periods and rent escalation clauses should be taken into account *via* straight-lining in calculating the plaintiff's projected gross monthly rental rates under the multi-year model (see [284] above). For consistency, these considerations should also be taken into account in ascertaining the plaintiff's projected net revenue margins.

299 However, Mr Toh's estimated net revenue margins are premised on his estimates of Biopolis 3's projected occupancy rates for each year. Therefore, these figures need to be adjusted against Mr Toh's reference points to reflect my findings above on the projected occupancy rates that Biopolis 3 would have achieved in each year of the No-Delay Scenario (as set out at [274] above) and the Delay Scenario (as set out at [278] above). I have found that the occupancy trajectory Biopolis 3 would have achieved in the Delay Scenario is the same as that in the No-Delay Scenario, save that the occupancy rates achieved in the Delay Scenario should be displaced by one year ie 2010, to reflect the period of delay. Therefore, by way of illustration, the occupancy rate of Biopolis 3 would have achieved in January *2011* in the Delay Scenario is the same as the occupancy rate it would have achieved in January *2010* (one year earlier) in the No-Delay Scenario.

300 After making these adjustments, the net revenue margins to be adopted in each year of the No-Delay Scenario are as follows:

(a) January 2010: I found that the occupancy rate would have been 35.7%. This falls between the occupancy rates of 26.2% and 51.7% on Mr Toh's scale, which Mr Toh maps onto net revenue margins of 45.7% and 52.9% respectively.[note: 472] This is also very close to Mr Toh's projected occupancy rate of 35% for 2010 (which he maps onto a net revenue margin of 49.3%). Hence, I adopt Mr Toh's net revenue margin of 49.3%.

(b) January 2011: I found that the occupancy rate would have been 49.3%. This also falls in between the occupancy rates of 26.2% and 51.7% (which Mr Toh maps onto net revenue margins of 45.7% and 52.9% respectively[note: 473]) but is closer to the latter. Hence, I adopt a net revenue margin of 52%.

(c) January 2012: I found that the occupancy rate would have been 62.9%. As this falls in between the occupancy rates of 55.8% and 64.3% (which Mr Toh maps onto net revenue margins of 52% and 54.4% respectively)[note: 474] but is closer to the latter, I adopt a net revenue margin of 54%.

(d) January 2013: I found that the occupancy rate would have been 76.4%. This falls in between the occupancy rates of 75.6% and 85.3% respectively (which Mr Toh maps onto net revenue margins of 51.7% and 55.9%)[note: 475] but is closer to the former. Hence, I adopt a net revenue margin of 52%.

(e) January 2014: I found that the occupancy rate would have been 90%. As this is the same as Mr Toh's projected occupancy rate for 2014 (which he maps onto a net revenue margin of 55.9%)[note: 476], I adopt a net revenue margin of 55.9%.

(f) January 2015: As Biopolis 3 would have reached stabilised occupancy of 90% in January 2014 in the No-Delay Scenario, I shall also adopt the net revenue margin of 55.9%.

301 As for the Delay Scenario, the net revenue margins to be adopted in each year are as follows:

(a) January 2011: I found that the occupancy rate would have been 35.7%. For the reasons explained at [300(a)] above, I adopt Mr Toh's net revenue margin of 49.3%.

(b) January 2012: I found that the occupancy rate would have been 49.3%. For the reasons explained at [300(b)] above, I adopt a net revenue margin of 52%.

(c) January 2013: I found that the occupancy rate would have been 62.9%. For the reasons explained at [300(c)] above, I adopt a net revenue margin of 54%.

(d) January 2014: I found that the occupancy rate would have been 76.4%. For the reasons explained at [300(d)] above, I adopt a net revenue margin of 52%.

(e) January 2015: I found that the occupancy rate would have been 90%. For the reasons explained at [300(e)] above, I adopt a net revenue margin of 55.9%.

(7) Discount for project risk

302 The plaintiff's expert, Mr Toh, applied a discount of 8% to obtain the net present value of the loss of net rental revenue as at the reference date of 12 January 2011 (which was the date of completion of Biopolis 3). This discount is applied to take into account the uncertainty in the cash flows for Biopolis 3 over time and reflects the risk of Biopolis 3 not achieving its revenue projections. This risk arises from the possibility of not achieving the projected occupancy rates, rental rates and revenue margins, as well as the possibility of events such as tenants discontinuing their leases halfway, fire hazards and biohazards. Mr Toh also explained that the rate of 8% was derived based on the median discount rate adopted in the valuation of market comparables by professional valuers. This rate was then cross-checked against other business park properties and portfolios.[note: 477] On this basis, the plaintiff submits that a discount of 8% should be applied to account for all aspects of risk in relation to Biopolis 3 reaching its revenue projections.[note: 478]

303 Assoc Prof Tay concurred with Mr Toh's approach. He noted that it is a well-established principle and practice for cash flows received over a period of time to be discounted back to their present value at a particular date. Further, his experience with industrial property discount rates supports 8% as the appropriate discount rate.[note: 479]

304 Assoc Prof Yu did not apply a discount in his analysis. He explained that he did not consider it necessary to apply a discount because he had focused on ascertaining the loss of net rental revenue, and not on conducting a valuation of the plaintiff's rental revenue as at a specific point in time. However, he agreed that a discount rate of 8% could be adopted if a reference date was fixed.[note: 480]

305 I find that a discount rate of 8% (which is generally supported by both parties' experts and Assoc Prof Tay) is appropriate in this case. I agree with the plaintiff's submission that Mr Toh determined this discount rate in a principled manner.[note: 481] Based on Mr Toh's explanation (as outlined at [302] above), the discount reflects the uncertainties regarding whether Biopolis 3 would be able to achieve its revenue projections, including risks arising from contingencies such as fire hazards and biohazards. Such risks are inevitable under the multi-year model given that it involves projections of occupancy rates, rental rates and revenue margins several years into the future (as noted at [112] above). However, as I have explained at [115] above, I do not think the discount rate of 8% adequately accounts for *all* aspects of risk relating to Biopolis 3 reaching its revenue projections, or for the inherently speculative and variable nature of the multi-year model.

306 I, therefore, find that a discount rate of 8% should be applied to the plaintiff's loss of net rental revenue, as suggested by Mr Toh.

(8) Conclusion on the application of the multi-year model

307 Applying the above parameters, the plaintiff's loss of net rental revenue under the multi-year model is $10,465,799.87. A summary of the parameters adopted is set out in the table below.

| Year | No-Delay Scenario | Delay Scenario |
|---|---|---|
| 2010 | Occupancy rate: 35.7%<br>Monthly gross rental rate: $4.63 *per* sq ft<br>Net revenue margin: 49.3% | Occupancy rate: 0% |
| 2011 | Occupancy rate: 49.3%<br>Monthly gross rental rate: $5.05 *per* sq ft<br>Net revenue margin: 52% | Occupancy rate: 35.7%<br>Monthly gross rental rate: $5.05 *per* sq ft<br>Net revenue margin: 49.3% |
| 2012 | Occupancy rate: 62.9%<br>Monthly gross rental rate: $4.89 *per* sq ft<br>Net revenue margin: 54% | Occupancy rate: 49.3%<br>Monthly gross rental rate: $4.89 *per* sq ft<br>Net revenue margin: 52% |
| 2013 | Occupancy rate: 76.4%<br>Monthly gross rental rate: $5.20<br>Net revenue margin: 52% | Occupancy rate: 62.9%<br>Monthly gross rental rate: $5.20 *per* sq ft<br>Net revenue margin: 54% |
| 2014 | Occupancy rate: 90%<br>Monthly gross rental rate: $4.86<br>Net revenue margin: 55.9% | Occupancy rate: 76.4%<br>Monthly gross rental rate: $4.86<br>Net revenue margin: 52% |
| 2015 | Occupancy rate: 90%<br>Monthly gross rental rate: $5.20<br>Net revenue margin: 55.9% | Occupancy rate: 90%<br>Monthly gross rental rate: $5.20<br>Net revenue margin: 55.9% |
| Projected net revenue from 2010–2015 | $46,704,951.56 | $36,239,151.70 |
| Difference | **$10,465,799.87** | |

308 The difference between the plaintiff's projected net revenue in the No-Delay Scenario and the Delay Scenario (*ie*, $10,465,799.87) represents the plaintiff's loss of net rental revenue over the period from 2010 to 2015. After applying the discount of 8% for project risk, the plaintiff's loss of net rental revenue is $9,628,535.88. Since the defendant was responsible for 161 out of 334 days of delay, the loss of net rental revenue for which the defendant is liable is (161/334) × $9,628,535.88, *ie*, $4,641,300.23 (approximately $4.64 m).

| | |
|---|---|
| Damages for loss of net rental revenue under the multi-year model | **$4,641,300.23** |

309 For comparison, I set out below the quantifications of the plaintiff's loss of net rental revenue (as apportioned for the defendant's delay) under the multi-year model provided by Mr Toh, Assoc Prof Yu and Assoc Prof Tay.

| | |
|---|---|
| Mr Toh<br>(apportioned based on 161 out of 355 days, instead of 161 out of 334 days) | $4,483,678[note: 482] |
| Assoc Prof Yu<br>(not inclusive of service charges and without applying 8% discount rate) | $362,183.83[note: 483] |
| Assoc Prof Tay<br>(applying a fixed net revenue margin of 60%) | $3,662,385[note: 484] |

310 I note that my figure of $4,641,300.23 (see [308] above) is very close to Mr Toh's figure, and is also not far from Assoc Prof Tay's figure.

*Summary on loss of net rental revenue*

311 I shall now summarise my findings in relation to the plaintiff's claim for loss of net rental revenue.

312 The plaintiff's claim for loss of net rental revenue comprises two distinct types of loss: pre-completion loss of net rental revenue (incurred during the period of delay in 2010), and post-completion loss of net rental revenue (incurred after the completion of Biopolis 3). It is clear that the *pre-completion* loss of net rental revenue is direct loss within the first limb of the rule in *Hadley v Baxendale* as it was the natural consequence of the delay in completion. However, the *post-completion* loss of net rental revenue is indirect loss. Such loss is too remote and does not fall within the second limb of the rule in *Hadley v Baxendale* as the plaintiff has not shown that the defendant had actual knowledge that the plaintiff would incur a further loss of net rental revenue in the period from Biopolis 3's completion until Biopolis 3 achieved stabilised occupancy (see [93]–[102] above).

313 The appropriate method of quantifying the plaintiff's loss of net rental revenue should, therefore, focus on the pre-completion loss of net rental revenue during the period of delay in 2010. Although the experts focused on the multi-year model in their initial reports, the experts' proposed methods are premised on the assumption that the requirements of causation, remoteness and mitigation have all been satisfied by the plaintiff. The plaintiff's claim for loss of net rental revenue based on the multi-year model appears to infringe the principles on remoteness of damage because the plaintiff's post-completion loss of net rental revenue is too remote to be recoverable (see [93]–[102] and [127] above). Hence, I asked both parties' counsel and the experts to consider if the single-year model is a possible alternative method of quantifying the plaintiff's loss of net rental revenue (see [103] and [105] above).

314 While the multi-year model is a valuable tool for accounting and financial planning purposes, it suffers from several serious shortcomings which greatly limit its usefulness in the present assessment

of damages proceedings. First, it is highly speculative and depends on a multitude of variables. The effect of each assumption made in the multi-year model is magnified by the fact that it involves projecting occupancy rates, rental rates and net revenue margins several years into the future, with the relevant number of years itself being contested. The discount of 8% for project risk suggested by the plaintiff does not adequately account for the inherently speculative and variable nature of the multi-year model. Second, the multi-year model depends primarily on variables that are outside the defendant's control (in particular, the stabilised occupancy level and the occupancy growth trajectory). Third, the multi-year model cannot be used universally as it is capable of yielding illogical and inequitable outcomes, even for an innocent party in the plaintiff's position. The court's task in these proceedings is to determine the quantum of the plaintiff's losses which the defendant can *fairly* be held liable for as a result of the delay. Hence, my overarching considerations are the principles of fairness and equity as well as remoteness of damage. In view of the shortcomings of the multi-year model, I do not accept that it is a fair and equitable method of quantifying the plaintiff's loss of net rental revenue (see [110]–[125] above).

315 In contrast, the single-year model is much more straightforward and direct. It focuses directly on the loss of net rental revenue suffered by the plaintiff during the period of delay. I have found that the post-completion loss of net rental revenue suffered by the plaintiff from the completion of Biopolis 3 until stabilised occupancy was achieved is too remote to be recoverable from the defendant. The principles of remoteness and mitigation are not compromised in the single-year model. The single-year model also avoids the illogical and inequitable outcomes that may arise under the multi-year model. Therefore, the single-year model provides the fairest and most appropriate method of quantifying the plaintiff's loss of net rental revenue for the purposes of the present proceedings (see [126]–[128] above).

316 Having considered the views of the experts, I opine that the following parameters should be adopted under the single-year model (see [134]–[226] above):

(a) The first-year occupancy rate that Biopolis 3 would have achieved in 2010 if the delay had not occurred is 42.5%.

(b) The gross monthly rental rates for Biopolis 3 in 2010 should be as follows:

(i) For the five pre-commitment tenants: $5.95 *per* sq ft for ICES; $6.25 *per* sq ft for Abbott; $5.55 *per* sq ft for NTU; $5 *per* sq ft for Philip Morris; and $6.46 *per* sq ft for PetNet.

(ii) For the other tenants: $5.25 *per* sq ft.

(c) These monthly rental rates should then be multiplied by the number of rent-paying months in 2010:

(i) For the five pre-commitment tenants: 11 months for ICES; 8 months for Abbott; and 9 months for NTU, Philip Morris and PetNet.

(ii) For the other tenants: 9 months.

(d) A net revenue margin of 52% should be applied to derive the plaintiff's net rental revenue from Biopolis 3 for 2010.

317 Applying these parameters, the plaintiff's loss of net rental revenue for the whole of 2010 is

$4,056,711.62. After apportioning this sum based on the defendant's liability for 161 days of delay (out of 334 days), the loss of net rental revenue for which the defendant is liable under the single-year model is $1,789,398.82 (see [227]–[228] above).

318 Nevertheless, as the parties and their experts devoted considerable time to the multi-year model, I have also considered the quantification of the plaintiff's loss of net rental revenue under the multi-year model. In my view, the following parameters should be adopted under the multi-year model (see [238]–[306] above):

(a) Biopolis 3's stabilised occupancy level is 90%. In both the Delay Scenario and the No-Delay Scenario, it would have taken Biopolis 3 four years to reach this rate of occupancy (*ie*, Biopolis 3 would have achieved stabilised occupancy in January 2014 in the No-Delay Scenario and January 2015 in the Delay Scenario).

(b) With regard to the occupancy growth trajectory for Biopolis 3, a straight-line projection should be adopted. Biopolis 3's starting occupancy rate for January 2010 (in the No-Delay Scenario) and January 2011 (in the Delay Scenario) would have been 35.7%.

(c) In the No-Delay Scenario, applying a straight-line projection of occupancy growth from 35.7% in January 2010 to 90% in January 2014, the occupancy rates Biopolis 3 would have achieved in each year are as follows: 35.7% in January 2010, 49.3% in January 2011, 62.9% in January 2012, 76.4% in January 2013 and 90% in January 2014.

(d) In the Delay Scenario, applying a straight-line projection of occupancy growth from 35.7% in January 2011 to 90% in January 2015, the occupancy rates Biopolis 3 would have achieved in each year are as follows: 35.7% in January 2011, 49.3% in January 2012, 62.9% in January 2013, 76.4% in January 2014 and 90% in January 2015.

(e) The projected gross monthly rental rates that Biopolis 3 would have achieved in each year, in both the No-Delay Scenario and the Delay Scenario, are as follows: $4.63 *per* sq ft in 2010 (in the No-Delay Scenario), $5.05 *per* sq ft in 2011, $4.89 *per* sq ft in 2012, $5.20 *per* sq ft in 2013, $4.86 *per* sq ft in 2014 and $5.20 *per* sq ft in 2015.

(f) In the No-Delay Scenario, the plaintiff's net revenue margins would have been 49.3% for January 2010, 52% for January 2011, 54% for January 2012, 52% for January 2013, 55.9% for January 2014 and 55.9% for January 2015.

(g) In the Delay Scenario, the plaintiff's net revenue margins would have been 49.3% for January 2011, 52% for January 2012, 54% for January 2013, 52% for January 2014, and 55.9% for January 2015.

(h) A discount rate of 8% should be applied to account for the risk of Biopolis 3 not achieving its revenue projections based on these parameters.

319 Applying these parameters, the plaintiff's loss of net rental revenue over the period from 2010 to 2015 under the multi-year model is $9,628,535.88. This is the difference between the plaintiff's projected net revenue in the No-Delay Scenario and the Delay Scenario after applying the discount of 8%. Since the defendant was responsible for 161 out of 334 days of delay, the loss of net rental revenue for which the defendant is liable is $4,641,300.23 (see [307]–[308] above).

320 However, as I have explained, the single-year model should be used to quantify the plaintiff's

loss of net rental revenue in the present proceedings, instead of the multi-year model. I, therefore, find that the defendant is liable for a sum of $1,789,398.82 in respect of the plaintiff's loss of net rental revenue.

***Holding costs***

321 It is not disputed that the plaintiff incurred holding costs of $2,340,102.37 as land rent payable to JTC Corporation and property tax payable to IRAS from 23 January 2010 to 12 January 2011. However, the defendant disputes the plaintiff's claim for holding costs on four grounds.

322 First, the defendant contends that these losses were not *caused* by the delay because the plaintiff had committed to incurring these holding costs before the signing of the LOI. The LOI was signed only after the Biopolis 3 tender documents were submitted by the plaintiff to JTC Corporation. The defendant argues that those tender documents specified the holding costs payable by the plaintiff to JTC Corporation if the tender was awarded to the plaintiff. The plaintiff was awarded the tender in or around December 2007 (Liability Judgment (HC) at [14]). Therefore, the plaintiff would have incurred these holding costs regardless of whether there was a delay in the completion of Biopolis 3 and the plaintiff did not rely on the LOI in agreeing to pay JTC Corporation these holding costs.[note: 485]

323 Second, the defendant contends that these holding costs are *too remote* for the plaintiff to recover.

324 Third, the defendant argues that the plaintiff cannot claim the holding costs in addition to its alleged loss of net rental revenue because this would amount to *double recovery*.[note: 486]

325 Fourth, the defendant submits that any holding costs awarded to the plaintiff should be reduced by the three to six months of rent-free fitting-out periods because these holding costs would have been expenditure wasted by the plaintiff during those rent-free periods whether or not there was a delay in the completion of Biopolis 3.[note: 487]

326 I shall address each of these four issues in turn.

*Whether the holding costs are losses caused by the delay*

327 In my view, it is clear that the holding costs are losses caused directly by the delay. The plaintiff had committed to paying annual land rent to JTC Corporation in the Building Agreement for Biopolis 3 dated 14 July 2008, which was after the LOI was signed.[note: 488] Even if the plaintiff had committed to incurring these holding costs before the signing of the LOI on 30 June 2008, the holding costs incurred during the period of delay were wasted expenditure which resulted in the plaintiff suffering net losses. I agree with the plaintiff's submission that the holding costs were wasted expenditure because these sums could not be put to their potential to generate rental revenue.[note: 489] As the Court of Appeal explained in *Alvin Nicholas Nathan*, reliance losses are "the costs and expenses the claimant incurred in reliance on the defendant's contracted-for performance, but which were wasted because of the breach of contract". The basis for awarding reliance losses is "the assumption that were the contract performed, the claimant would have at least fully recovered the costs and expenditure incurred" (*Alvin Nicholas Nathan* at [24]). The holding costs incurred by the plaintiff in this case fall squarely within this description of reliance losses. If the delay in completion had not occurred, the plaintiff would have begun earning rental revenue from January 2010 onwards and these holding costs would not have been wasted. This rental revenue would have offset the

holding costs incurred by the plaintiff. However, as a result of the delay, the plaintiff was "required to make payments in respect of a property which [it] could not use, being payments from which [it] acquired no benefit" (*Leeda Projects Pty Ltd v Yun Zeng* (2020) 61 VR 384 at [189]).[note: 490]

328 Therefore, I am satisfied on a balance of probabilities that these holding costs were losses caused by the defendant's delay. The plaintiff incurred these holding costs because it relied on Biopolis 3 being completed on time in January 2010. However, if the plaintiff had claimed loss of *gross* rental revenue, it would not be able to claim holding costs at the same time, as this would be tantamount to a double claim. This is discussed in detail at [334]–[340] below.

329 As I have explained at [77] above, the Defendant's Secondary Case on Causation should be rejected. It was not held that the defendant was responsible specifically for the delay from 15 July 2010 to 22 December 2010. In any event, the defendant is liable for 161 days of delay and the part of the year in which the delay took place makes no difference. The defendant's submission that the plaintiff can claim only the holding costs incurred during the period from 15 July 2010 to 22 December 2010[note: 491] is, therefore, misconceived.

*Whether the holding costs are too remote to be recoverable*

(1) The parties' submissions

330 The plaintiff submits that the holding costs are not too remote to be recoverable from the defendant. At all material times leading up to the signing of the LOI, the defendant was aware that the plaintiff would incur such holding costs, including any period of delay to completion.[note: 492]

(a) First, the defendant's knowledge can be imputed since such holding costs are inevitable for large commercial construction projects such as Biopolis 3. It was also common knowledge that JTC Corporation had leased the land on which Biopolis 3 was built to the plaintiff at commercial rates, and that property tax on the leasehold would be paid by the plaintiff to IRAS. Land leased from the government for commercial purposes is subject to land rent and relevant taxes, charges and other holding costs, and Biopolis 3 is no exception. According to the plaintiff and Mr Leow, such knowledge must be imputed to an established player in the construction industry, such as the defendant.[note: 493]

(b) Further, the defendant was expressly informed or made aware that such holding costs would be incurred and that the plaintiff would be bearing such costs through discussions with the plaintiff and other relevant parties leading up to the signing of the LOI. For instance, the tender document for Biopolis 3 specified the indicative land rent, the upfront premium and the land service charge that the plaintiff would have to pay.[note: 494] It was also expressly made known to the defendant that the plaintiff would seek to recover the holding costs it had to pay JTC Corporation in the event of a delay in completion.[note: 495]

331 On the other hand, the defendant submits that the holding costs did not flow naturally from the delay, but instead arose simply because the plaintiff was leasing the land on which Biopolis 3 was built from JTC Corporation.[note: 496] Further, according to the defendant, none of the evidence shows that the plaintiff had ever told the defendant that it would claim these holding costs from the defendant in the event of a delay.[note: 497] Given the defendant's lack of actual knowledge that the plaintiff would claim these holding costs, the defendant submits that the holding costs are too remote.[note: 498]

(2) My findings

332 In my view, the holding costs are not too remote to be recoverable. The holding costs are plainly direct losses within the first limb of the rule in *Hadley v Baxendale*. From the delay in the completion of a building, it flows naturally that expenses such as land rent and property tax will be incurred in relation to the unfinished building. Further, as a general building contractor registered with the BCA, the defendant can be taken to have known that land rent and property tax would be payable on Biopolis 3 even before it was completed. However, if this was not common industry knowledge, I accept the plaintiff's evidence that the fact that the plaintiff would have to incur various holding costs prior to the completion of Biopolis 3 was specifically brought to the defendant's attention by the plaintiff in the course of their discussions. Therefore, even if the holding costs were not direct losses within the first limb of the rule in *Hadley v Baxendale*, they would be indirect losses within the second limb of the rule in *Hadley v Baxendale*.

333 Given the defendant's knowledge of these facts and surrounding circumstances, the holding costs would have been considered by a reasonable person in the defendant's situation at the time of the LOI to be "foreseeable as a not unlikely consequence that [it] should be liable for" (*Out of the Box* at [47]). I, therefore, find that the holding costs are not too remote.

*Whether the plaintiff is entitled to claim both loss of net rental revenue and the holding costs*

(1) The applicable law

334 Claims for expectation losses and reliance losses are generally alternative claims between which a plaintiff must elect (*Alvin Nicholas Nathan* at [25]). However, as explained in *Smile Inc* at [54]–[55], a plaintiff is only required to elect between loss of profits and wasted expenditure where the loss of profits is claimed on a *gross* basis, *ie*, without taking into account the expenditure that would have had to be incurred in order to generate those 'profits'. Where the loss of profits is claimed on a *net* basis, and a separate claim is made for the expenses incurred to enable the plaintiff to earn its net profits, there is no double-counting. On the contrary, in such a case, a claim for reliance loss in the form of wasted expenditure is complementary to the claim for expectation loss in the form of loss of net profits, and not duplicative.

335 Therefore, where a plaintiff brings a claim for loss of its *net* profits, it may also claim the fixed expenses which it would necessarily have incurred whether or not it was earning revenue (*Smile Inc* at [58(b)]). For example, in *Smile Inc* itself, the plaintiff was permitted to recover both its net profits (*ie*, its total revenue less its fixed and variable expenses) and fixed expenses such as the rent for the premises and the salaries of permanent staff.

336 I turn now to consider the application of these principles to the facts of this case.

(2) The parties' submissions

337 On the one hand, the plaintiff argues that it is entitled to recover the holding costs as reliance losses caused by the defendant's delay, in addition to its expectation losses in the form of the loss of net rental revenue. This is because its claim is for loss of *net* rental revenue, and not loss of *gross* rental revenue. Therefore, following the principles articulated in *Smile Inc*, its claim does not offend the rule against double recovery.[note: 499]

338 On the other hand, the defendant contends that the plaintiff is not entitled to recover these holding costs in addition to its loss of net rental revenue. The plaintiff erred in carving out the holding

costs it incurred in 2010 and claiming these costs as reliance losses. Instead, these holding costs should have been included as part of the cost of sales for the purposes of the plaintiff's alleged net rental revenue claim. This is because, in order for the plaintiff to earn its alleged net rental revenue, it would have had to incur these holding costs.[note: 500]

(3) My findings

339 In my view, the plaintiff is entitled to recover the holding costs it incurred during the period of delay in addition to its loss of net rental revenue. The plaintiff's claim is for *net* rental revenue and not gross rental revenue. Indeed, the plaintiff specifically instructed its expert, Mr Toh, to exclude the holding costs it had incurred in the year ended 31 December 2010 from his computations.[note: 501] As the plaintiff points out, the plaintiff's claim for loss of net rental revenue would have been even larger if Mr Toh had included the cost of sales in 2010.[note: 502] Further, my findings on the plaintiff's claim for rental revenue (see [307]–[308] above) are on a net basis, with net revenue margins applied to the plaintiff's gross rental revenue under both the single-year model and the multi-year model to account for the expenses that the plaintiff would have had to incur in order to earn its gross rental revenue.

340 Therefore, applying the principles set out in *Smile Inc*, the plaintiff is not required to elect between claiming for loss of profits (here, its loss of net rental revenue) and claiming for wasted expenditure (here, the holding costs). These claims are complementary and not duplicative as they represent two distinct types of loss suffered by the plaintiff.

*Rent-free periods*

341 I agree with the defendant that the holding costs awarded to the plaintiff should be reduced to account for the rent-free fitting-out period. I have accepted Assoc Prof Yu's and Assoc Prof Tay's estimate that the typical rent-free fitting-out period is three months for the purposes of the single-year model, which focuses on the year 2010 (see [218] above). Therefore, the holding costs recoverable by the plaintiff should be pro-rated accordingly.

342 The plaintiff contends that this would be "absurd" because the rent-free period only affects the plaintiff's tenancy agreements.[note: 503] However, this misses the point. These holding costs would have been wasted expenditure incurred by the plaintiff during the rent-free period even if Biopolis 3 had been completed on time. Hence, this portion of the holding costs incurred by the plaintiff is not wasted expenditure *caused by the delay*.

*Conclusion on holding costs*

343 The holding costs incurred by the plaintiff during the period of delay was wasted expenditure caused by the delay in the completion of Biopolis 3. However, the sum of $2,340,102.37 was incurred by the plaintiff from 23 January 2010 to 12 January 2011 (*ie*, a period of 355 days). As it has been established in the Liability Judgment (HC) and the Liability Judgment (CA) that the period of delay was only 334 days, the quantum of holding costs incurred must be pro-rated to a sum of $2,201,673.78 to reflect the holding costs incurred during the period of delay. Thereafter, this sum must be further pro-rated to $1,608,408.39 to account for the typical three-month rent-free period. This pro-rated sum is derived as follows: assuming that each of the three rent-free months has 30 days, there would be 90 rent-free days and 244 rent-paying days out of the 334-day period of delay. When the sum of $2,201,673.78 is multiplied by 244/334, the pro-rated sum is $1,608,408.39.

344 These holding costs are not too remote as they are direct losses which flowed naturally from the delay and which fall within the first limb of the rule in *Hadley v Baxendale*, having regard to the defendant's general industry knowledge. In any event, the holding costs would have been indirect losses within the second limb of the rule in *Hadley v Baxendale* given the defendant's actual knowledge of the surrounding circumstances.

345 After apportioning these holding costs based on the 161 days of delay attributable to the defendant, I find that the defendant is liable for a sum of $775,310.63 in respect of the holding costs incurred by the plaintiff. The plaintiff is entitled to claim these holding costs in addition to its loss of net rental revenue as its claim for the latter is made on a net basis, and not on a gross basis.

*Summary on holding costs*

346 In summary, I find that the defendant is liable for a sum of $775,310.63 in respect of the holding costs.

***Site staff expenses***

347 It is undisputed that the plaintiff incurred site staff expenses of $284,142.14 from 23 January 2010 to 12 January 2011. The plaintiff submits that the site staff expenses are costs that the plaintiff would not have had to incur but for the delay.[note: 504] Further, the plaintiff submits that the site staff expenses are not too remote. At all material times leading up to the signing of the LOI, the defendant was aware that site staff were required for Biopolis 3 and that the plaintiff would bear the expenses in relation to engaging such staff until Biopolis 3 was certified complete.[note: 505] The plaintiff argues that the defendant's knowledge is imputed as the defendant did not want to provide such site staff under its contractual scope of work, which meant that the plaintiff had to bear these expenses. In any event, the defendant was expressly informed or made aware of these expenses through discussions with the plaintiff and/or other relevant parties leading up to the signing of the LOI.[note: 506] In particular, it was made known to the defendant that the plaintiff would seek to recover the site staff expenses from the defendant in the event of a delay in completion.[note: 507] After apportionment based on the 161 days of delay attributable to the defendant (out of a total of 334 days of delay), the plaintiff claims $128,864.46 for site staff expenses from the defendant.[note: 508]

348 When the trial for the assessment of damages started, the defendant contested the liability for the site staff expenses. However, in the defendant's closing written submissions, it accepts that it is liable for the site staff expenses for its 161 days of delay, amounting to $132,157.12.[note: 509] It was baseless for the defendant to have resisted the plaintiff's claim for this category of loss. The defendant derived this figure of $132,157.12 based on the site staff expenses incurred during the specific period from 15 July 2010 to 22 December 2010. This is based on the Defendant's Secondary Case on Causation.[note: 510]

349 It is clear that the site staff expenses are wasted expenditure caused directly by the delay in the completion of Biopolis 3. The plaintiff was obliged to engage these site staff and pay their salaries until the completion of Biopolis 3, including during any period of delay.

350 Further, it is also clear that these site staff expenses are not too remote to be recoverable as they flowed naturally from the delay. I accept the plaintiff's argument that it is common knowledge, which must be imputed to the defendant as an experienced construction company registered with the

BCA, that these site staff expenses would need to be incurred for the duration of the construction of Biopolis 3, including during the delay in completion.[note: 511] Indeed, the hiring of such site staff is mandated by reg 24(1) of the Building Control Regulations 2003 (S 666/2003), read with s 10(1)(*a*) of the Building Control Act (Cap 29). In these circumstances, the site staff expenses were within the reasonable contemplation of the defendant. [note: 512] These expenses would have been considered by a reasonable person in the defendant's situation at the time of the LOI to be "foreseeable as a not unlikely consequence that [it] should be liable for" (*Out of the Box* at [47(e)]). This is not disputed by the defendant, which acknowledges that the site staff expenses were direct losses that arose naturally as a result of the delay.[note: 513]

351 For the reasons explained at [77]–[80] above, I reject the Defendant's Secondary Case on Causation. The plaintiff's apportionment of the site staff expenses is to be preferred. I, therefore, find that the defendant is liable for $128,864.46 in respect of the site staff expenses incurred by the plaintiff.

*Summary on site staff expenses*

352 In summary, I find that the defendant is liable for a sum of $128,864.46 in respect of the site staff expenses.

**Conclusion**

353 For the above reasons, I award damages to the plaintiff amounting to $2,693,573.91. I make the following findings:

(a) The defendant is liable for a sum of $1,789,398.82 in respect of the plaintiff's loss of net rental revenue.

(b) The defendant is liable for a sum of $775,310.63 in respect of the holding costs incurred by the plaintiff during the period of delay.

(c) The defendant is liable for a sum of $128,864.46 in respect of the site staff expenses incurred by the plaintiff during the period of delay.

354 I see no reason to depart from the default interest rate of 5.33% *per annum*, which is the rate prescribed by para 77 of the Supreme Court Practice Directions. Accordingly, I award the plaintiff interest at the rate of 5.33% *per annum* on the sum of $2,693,573.91 from the date of the writ (*ie*, 15 May 2015). I note that the plaintiff claims pre-judgment interest at 5.33% *per annum* on any damages awarded in respect of its loss of net rental revenue commencing on the date Biopolis 3 was certified as completed (*ie*, 12 January 2011).[note: 514] However, in my view, the relevant date is the date of the writ, and not the date on which Biopolis 3 was certified as completed. Under para 77(2)(*b*) of the Supreme Court Practice Directions, the period of interest commences on the date of the writ. In my view, there is no reason to depart from this guideline in the present case.

355 Finally, I thank the court expert and the parties' expert witnesses for their invaluable assistance in these proceedings. Not only did they produce detailed and thoughtful expert reports before the proceedings commenced, they also prepared supplemental reports and calculations to address further points raised over the course of the trial, often at relatively short notice. I record the court's appreciation of their efforts.

356 On 30 December 2020, as agreed by the parties, the court ordered that the costs payable by the defendant to the plaintiff will be taxed unless otherwise agreed.[note: 515]

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[note: 1]Plaintiff's Statement of Claim (Amendment No 5) ("PSOC") at para 1.

[note: 2]PSOC at para 4.

[note: 3]PSOC at paras 2, 5.2 and 11; First Affidavit of Evidence-in-Chief of Annie Woo Yen Lee ("AWYL-1"), p 32 at Table 2.1 and paras 17–19.

[note: 4]AWYL-1, Annex 1 at p 76 and Annex 2 at p 77.

[note: 5]PSOC at para 34.

[note: 6]HC/ORC 1483/2018 in HC/SUM 401/2018.

[note: 7]Agreed Statement of Facts (Second Tranche) (Amendment No 1) ("ASOF") at s/n 1.

[note: 8]ASOF at s/n 2.

[note: 9]ASOF at s/n 3.

[note: 10]ASOF at s/n 4.

[note: 11]2JCB00788 at Liability Judgment (HC) at [31], footnote 31.

[note: 12]ASOF at s/n 5.

[note: 13]ASOF at s/n 6.

[note: 14]Plaintiff's Reply and Defence to Counterclaim (Amendment No 5) ("PRDC") at para 44D.1.

[note: 15]PSOC, p 52 at para G; Plaintiff's Opening Statement at para 3.

[note: 16]PSOC at para 46.2.3(d); Plaintiff's Written Submissions ("PWS") at para 5.

[note: 17]PWS at para 5.

[note: 18]PWS at para 4.

[note: 19]Plaintiff's Opening Statement at paras 7–8.

[note: 20]First Affidavit of Evidence-in-Chief of Andre Toh Sern ("ATS-1"), p 23 at para 6.11 and p 645; PWS at para 140.

[note: 21]Plaintiff's Opening Statement at paras 5–6.

[note: 22]PRDC at para 44D.3.

[note: 23]PWS at para 49.

[note: 24]PWS at para 50.

[note: 25]PSOC at para 46.2.3(i); Plaintiff's Opening Statement at para 54(a); Second Affidavit of Evidence-in-Chief of Lawrence Leow Chin Hin ("LLCH") at paras 105–107.

[note: 26]PWS at paras 49–50 and 84–91.

[note: 27]Plaintiff's Opening Statement at paras 7(c) and 54(b).

[note: 28]Defendant's Core Bundle of Documents ("DCB"), Vol 8, Tab 161 at p 1.

[note: 29]PWS at paras 11(b), 51 and 92–95.

[note: 30]Plaintiff's Opening Statement at para 11; PWS at paras 8–9.

[note: 31]Plaintiff's Opening Statement at para 8.

[note: 32]Plaintiff's Opening Statement at para 11; ATS-1, p 20 at para 6.1.

[note: 33]Transcript (28 June 2021), p 116 at lines 1–2

[note: 34]PWS at para 215.

[note: 35]PSOC at paras 42–44; Plaintiff's Opening Statement at paras 50–51; PWS at paras 217–224.

[note: 36]Plaintiff's Opening Statement at para 50(c)–(d).

[note: 37]PWS at para 225.

[note: 38]PWS at paras 226–228.

[note: 39]PWS at para 229.

[note: 40]Plaintiff's Opening Statement at paras 52–53.

[note: 41]PRDC at para 44H.

[note: 42]Calculated based on the plaintiff's parameters in PWS at para 10.

[note: 43]PCB, Vol 7, Tab 88 (Plaintiff's Preliminary Submissions on Expectation Loss) at para 12.

[note: 44]PSOC at para 46.3; Plaintiff's Opening Statement at para 39; ASOF at s/n 7; PWS at para 253.

[note: 45]PRDC at para 44A.1.3.

[note: 46]PWS at paras 6 and 251–252.

[note: 47]Plaintiff's Opening Statement at paras 41–43.

[note: 48]Affidavit of Evidence-in-Chief of Leow Chin Huat ("LCH") at para 29.

[note: 49]PSOC at para 46.1; Plaintiff's Opening Statement at para 45; ASOF at s/n 8.

[note: 50]PWS at paras 6 and 260–261.

[note: 51]PRDC at para 44A.1.1; PWS at paras 262–264.

[note: 52]Defendant's Defence and Counterclaim (Amendment No 6) ("DDC") at para 43.3.

[note: 53]DDC at para 43; Defendant's Opening Statement at paras 13 and 15.

[note: 54]Defendant's Opening Statement at paras 13–16.

[note: 55]Defendant's Opening Statement at para 22.

[note: 56]DDC at para 43.

[note: 57]Exhibit D2 at p 1.

[note: 58]Defendant's Written Submissions ("DWS") at para 215 (table on p 82).

[note: 59]DDC at para 43.1; Defendant's Opening Statement at para 29.

[note: 60]DWS at paras 29 and 34.

[note: 61]DWS at para 31.

[note: 62]DWS at para 23.

[note: 63]DWS at para 8.

[note: 64]DDC at para 43A; Defendant's Opening Statement at paras 37–38.

[note: 65]ASOF at s/n 7.

[note: 66]Defendant's Opening Statement at para 28; DWS at para 24.

[note: 67]DDC at para 43.1.

[note: 68]Defendant's Opening Statement at para 36; DWS at para 9.

[note: 69]ASOF at s/n 8.

[note: 70]DWS at para 11.

[note: 71]DDC at para 43B.

[note: 72]DDC at para 43B.

[note: 73]DWS at para 35.

[note: 74]Plaintiff's Opening Statement at para 58.

[note: 75]PWS at paras 226–228.

[note: 76]DWS at para 35.

[note: 77]Plaintiff's Opening Statement at para 2.

[note: 78]DWS at para 7.

[note: 79]DWS at para 18.

[note: 80]PWS at para 98; DRS at para 2.

[note: 81]Defendant's Opening Statement at para 15; DWS at para 19.

[note: 82]DWS at paras 18–19 and 22.

[note: 83]DWS at para 20.

[note: 84]PWS at para 99.

[note: 85]PWS at paras 100–102.

[note: 86]PWS at para 103.

[note: 87]PWS at paras 104–105.

[note: 88]PWS at para 46.

[note: 89]DRS at paras 3–4.

[note: 90]PWS at para 234.

[note: 91]DRS at paras 6–7.

[note: 92]Defendant's Opening Statement at para 15.

[note: 93]PWS at para 104.

[note: 94]Transcript (28 June 2021), p 17 at lines 9–32 and p 18 at lines 1–3.

[note: 95]DRS at para 17; Defendant's Bundle of Authorities for Reply Submissions, Tab 3 at p 18.

[note: 96]DRS at para 18.

[note: 97]PWS at paras 231–235.

[note: 98]PSOC at para 46.2.3(f).

[note: 99]ATS-1, p 14 at para 4.5.

[note: 100]First Affidavit of Evidence-in-Chief of Yu Shi Ming ("YSM-1"), p 35 at para 109.

[note: 101]Second Affidavit of Evidence-in-Chief of Yu Shi Ming ("YSM-2"), p 6 at para 7.4.

[note: 102]Plaintiff's Reply Submissions ("PRS") at paras 10–11.

[note: 103]DWS at para 30; Defendant's Reply Submissions ("DRS") at paras 20–21.

[note: 104]DWS at para 31.

[note: 105]DRS at para 22.

[note: 106]DRS at para 23.

[note: 107]DRS at para 24.

[note: 108]DRS at para 21(b).

[note: 109]PRS at para 11.

[note: 110]PRS at paras 11–12.

[note: 111]Transcript (31 March 2021), p 129 at lines 15–17.

[note: 112]LLCH at para 48 and 52(d).

[note: 113]Transcript (26 March 2021), p 109 at lines 13–20; p 110 at lines 7–15; p 111 at lines 2–21; p 113 at lines 11–14; and p 114 at lines 15–19.

[note: 114]Transcript (28 June 2021), p 55 at lines 11–32 and p 56 at lines 1–3.

[note: 115]Transcript (28 June 2021), p 53 at lines 22–32 and p 54 at lines 1–20.

[note: 116]First Affidavit of Evidence-in-Chief of Tay Kah Poh ("TKP-1"), p 8 (Assoc Prof Tay); Transcript (13 April 2021), p 117 at lines 12–20, p 118 at lines 24–25 and p 119 at lines 1–2 (Mr Toh); YSM-1, pp 9–10 at para 16 (Assoc Prof Yu).

[note: 117]YSM-1, p 14 at para 35.

[note: 118]ATS-1, p 2 at para 1.

[note: 119]Transcript (15 April 2021), p 26 at line 25 and p 27 at lines 1–5.

[note: 120]Transcript (9 April 2021), p 110 at lines 5–25 and p 111 at lines 1–16.

[note: 121]Transcript (23 March 2021), p 67 at lines 17–25; p 68 at lines 1–25; p 69 at lines 1–19.

[note: 122]Transcript (28 June 2021), p 62 at lines 7–10 and p 63 at lines 9–22.

[note: 123]Transcript (19 April 2021), p 34 at lines 14–24.

[note: 124]Transcript (16 April 2021), p 206 at lines 23–25 and p 207 at lines 1–7.

[note: 125]YSM-2, pp 5–6 at paras 7–7.3; Transcript (16 April 2021), p 207 at lines 9–25 and p 208 at lines 1–5; DWS at para 87.

[note: 126]DRS at para 59.

[note: 127]Transcript (15 April 2021), p 19 at lines 6–10.

[note: 128]Transcript (15 April 2021), p 27 at lines 6–17.

[note: 129]ATS-1, p 16 at para 5.2.

[note: 130]ATS-1, p 16 at para 5.3.

[note: 131]ATS-1, p 23 at para 6.10 and p 26 at para 6.35; PWS at para 8.

[note: 132]PWS at paras 115 and 120.

[note: 133]PWS at paras 9 and 117–118.

[note: 134]Second Affidavit of Evidence-in-Chief of Tay Kah Poh ("TKP-2"), p 8 at para 15; Fourth Report of Tay Kah Poh ("TKP-4"), p 1 at para 3.

[note: 135]Second Affidavit of Evidence-in-Chief of Andre Toh Sern ("ATS-2") at pp 17–19.

[note: 136]PWS at paras 116 and 118.

[note: 137]Transcript (28 June 2021), p 67 at lines 27–30.

[note: 138]ATS-1, p 32 at para 6.63.

[note: 139]ATS-1, p 23 at para 6.18.

[note: 140]ATS-1, p 26 at paras 6.39–6.41.

[note: 141]ATS-1, p 36 at para 6.82.

[note: 142]ATS-1, p 37 at para 6.86.

[note: 143]ATS-1, p 43 at para 6.98; ATS-2 at p 21, Scenario 1.

[note: 144]Exhibit D2 at p 1.

[note: 145]TKP-4 at p 3 (Table 1), p 4 (Table 4) and p 5 (Table 2).

[note: 146]PRS at para 64.

[note: 147]DWS at paras 188–192.

[note: 148]Transcript (14 April 2021), p 89 at lines 10–23.

[note: 149]ATS-2, pp 21, 22 (Scenario 1), 26 (Scenario 2), 29 (Scenario 3), 32 (Scenario 4), 36 (Scenario 5) and 39 (Scenario 6).

[note: 150]Transcript (19 April 2021), p 174 at lines 11–16.

[note: 151]DWS at para 141.

[note: 152]PWS at para 119.

[note: 153]DWS at paras 131–133.

[note: 154]DWS at para 134.

[note: 155]Transcript (15 April 2021), p 47 at lines 16–18.

[note: 156]Transcript (15 April 2021), p 47 at lines 4–6.

[note: 157]YSM-2, p 11 at para 20.1,

[note: 158]PWS at paras 187–193.

[note: 159]PWS at paras 119(c) and 189–191.

[note: 160]PRS at para 72.

[note: 161]Transcript (28 June 2021), p 70 at lines 21–26 and p 71 at lines 13–16.

[note: 162]Transcript (19 April 2021), p 67 at lines 2–6.

[note: 163]ASOF at s/n 10.

[note: 164]PWS at paras 194–195.

[note: 165]Second Affidavit of Annie Woo Yen Lee ("AWYL-2"), Annex 2 at p 19.

[note: 166]AWYL-2, Annex 1 at p 18.

[note: 167]AWYL-2, pp 5–6 at para 7.

[note: 168]AWYL-1, p 28 at para 11.

[note: 169]AWYL-2, Annex 3 at p 20.

[note: 170]AWYL-2, Annex 4 at p 26.

[note: 171]AWYL-2, p 6 at paras 8–10.

[note: 172]AWYL-2, p 6 at paras 11–12.

[note: 173]AWYL-1, p 49 at para 55.

[note: 174]AWYL-1, p 59 at para 71.

[note: 175]AWYL-1, p 9 at para 18.

[note: 176]AWYL-2, p 7 at Table 1 and para 14.

[note: 177]AWYL-1, pp 28–29 at paras 11–12.

[note: 178]AWYL-2, p 5, para 6; AWYL-1, p 39 at para 35 and p 40 at para 37.

[note: 179]YSM-1, p 32, paras 98–99.

[note: 180]Transcript (16 April 2021), p 209 at lines 6–19.

[note: 181]YSM-1, p 32 at para 99.

[note: 182]Transcript (16 April 2021), p 111 at lines 1–4.

[note: 183]Transcript (16 April 2021), p 110 at line 15.

[note: 184]Transcript (15 April 2021), p 118 at lines 19–24.

[note: 185]Transcript (15 April 2021), p 116 at lines 6–10 and p 117 at lines 1–5.

[note: 186]Transcript (15 April 2021), p 119 at lines 16–24.

[note: 187]Third Affidavit of Evidence-in-Chief of Tay Kah Poh ("TKP-3"), p 8 at para 9; Court Expert's Re-worked Single Year Computation for 2010 Loss ("TKP-5"), p 1 at para 1.

[note: 188]TKP-5, p 2 at para B.

[note: 189]TKP-3, pp 7–8, paras 8–9; PCB, Vol 7 at Tab 79.

[note: 190]PCB, Vol 7 at Tab 79.

[note: 191]TKP-5, p 2 at para B.

[note: 192]LLCH at paras 104 and 109.

[note: 193]AWYL-1, p 59 at para 71.

[note: 194]DWS at paras 38 and 42.

[note: 195]Defendant's Opening Statement at para 27.

[note: 196]DWS at paras 243–271.

[note: 197]Second Agreed Bundle of Documents ("2AB"), Vol 6 at p 2899.

[note: 198]AWYL-1, p 59 at para 71.

[note: 199]PRS at para 36.

[note: 200]TKP-1, p 34 at para 21.

[note: 201]PRDC at para 44B.

[note: 202]Plaintiff's Core Bundle ("PCB"), Vol 7 at Tab 92; PWS at paras 59–60.

[note: 203]PWS at paras 61–62.

[note: 204]PWS at para 63.

[note: 205]PWS at para 65–66.

[note: 206]2AB, Vol 6 at p 2922.

[note: 207]LLCH at para 125.

[note: 208]PWS at paras 69–70.

[note: 209]DWS at paras 64–65 and 67; DRS at para 52.

[note: 210]2AB, Vol 6 at p 3195.

[note: 211]PRS at para 21.

[note: 212]PWS at para 71.

[note: 213]2AB, Vol 6 at p 3218.

[note: 214]2AB, Vol 6 at p 3222.

[note: 215]2AB, Vol 6 at pp 3224 and 3397.

[note: 216]2AB, Vol 6 at p 3396.

[note: 217]PWS at paras 73–74.

[note: 218]DWS at paras 72 and 75.

[note: 219]PRS at para 25.

[note: 220]2AB, Vol 7 at p 3398.

[note: 221]2AB, Vol 7 at pp 3441 and 3444–3445.

[note: 222]2AB, Vol 7 at pp 3465–3466.

[note: 223]LLCH at para 144, read with Transcript (23 March 2021) at p 104, lines 9–12.

[note: 224]2AB, Vol 7 at p 3652.

[note: 225]2AB, Vol 7 at p 3657.

[note: 226]LLCH at para 145.

[note: 227]Affidavit of Evidence-in-Chief of Dennis Yeo Huang Kiat ("DYHK"), p 186 at Annex 66.

[note: 228]2AB, Vol 7 at p 3442.

[note: 229]DWS at paras 55–56.

[note: 230]PWS at para 80.

[note: 231]Transcript (25 March 2021), p 29 at lines 9–11 and 24–25; p 30 at lines 2–18; p 31 at lines 12–18; PWS at para 80.

[note: 232]PCB, Vol 7, Tab 91; PWS at para 76.

[note: 233]PRS at para 27.

[note: 234]2AB, Vol 7 at p 3667.

[note: 235]2AB, Vol 7 at p 3668.

[note: 236]LLCH at para 129.

[note: 237]2AB, Vol 7 at p 3669.

[note: 238]2AB, Vol 7 at p 3776.

[note: 239]Transcript (31 March 2021), p 89 at lines 19–25.

[note: 240]2AB, Vol 7 at p 3796.

[note: 241]Transcript (31 March 2021), p 91 at lines 22–25 and p 92 at lines 10–14.

[note: 242]DWS at para 44.

[note: 243]PWS at paras 81(i) and 82.

[note: 244]2AB, Vol 1 at p 183; Transcript (31 March 2021), p 36 at lines 23–25 and p 37 at line 1.

[note: 245]PRS at para 3.

[note: 246]Transcript (24 March 2021), p 64 at lines 4–6 and p 71 at lines 20–22; Transcript (31 March 2021), p 38 at lines 1–4 and p 100 at lines 13–20.

[note: 247]Transcript (31 March 2021), p 38 at lines 8–15.

[note: 248]DWS at para 15.

[note: 249]Transcript (31 March 2021), p 38 at lines 8–19; p 39 at lines 24–25; p 40 at lines 1–9.

[note: 250]DWS at para 12; Transcript (28 June 2021), p 89 at lines 9–24.

[note: 251]Transcript (31 March 2021), p 34 at lines 10–25.

[note: 252]Transcript (31 March 2021), p 33 at lines 2–5; DWS at para 13.

[note: 253]Transcript (28 June 2021), p 88 at lines 8–14.

[note: 254]DWS at paras 13–14.

[note: 255]DWS at para 12.

[note: 256]2AB, Vol 7 at pp 5041–5050.

[note: 257]Transcript (31 March 2021), p 94 at lines 17–24 and p 98 at lines 5–8.

[note: 258]PRS at para 30; 2AB, Vol 1 at pp 83 and 89.

[note: 259]PWS at para 17.

[note: 260]PCB, Vol 7, Tab 76 at p 1 and Tab 80 at pp 1–2; PWS at paras 18 and 22.

[note: 261]PWS at paras 23–24.

[note: 262]PWS at para 25.

[note: 263]PWS at paras 26–28; PCB, Vol 8 at Tab 114.

[note: 264]2AB, Vol 5 at p 2744; PWS at para 29–31.

[note: 265]DWS at para 78.

[note: 266]YSM-1 at pp 18–19, paras 46–50.

[note: 267]DWS at para 79.

[note: 268]DCB, Vol 8 at Tab 163.

[note: 269]DWS at para 80; DRS at paras 32–33.

[note: 270]Transcript (10 August 2018), p 13 at lines 22–25; DWS at para 83.

[note: 271]PRS at para 42.

[note: 272]Transcript (16 April 2021), p 155, lines 24–25 and p 156, lines 1–12.

[note: 273]AWYL-1, p 32 at Table 2.1.

[note: 274]PCB, Vol 7 at Tab 89; Transcript (19 April 2021), p 58, lines 14–21; PWS at para 43(b).

[note: 275]DRS at para 39.

[note: 276]ATS-1, p 93 at Figure 2.

[note: 277]PWS at para 33.

[note: 278]Transcript (15 April 2021), p 97 at lines 17–18.

[note: 279]DWS at paras 78 and 82; DRS at para 37.

[note: 280]Transcript (19 April 2021), p 40 at lines 6–10.

[note: 281]PWS at paras 35–36.

[note: 282]2AB, Vol 5 at p 2744.

[note: 283]Transcript (15 April 2021), p 67 at lines 22–25; p 68 at lines 1–15; p 69 at lines 1–5.

[note: 284]Transcript (6 April 2021), p 77, lines 4–8 and p 78, lines 1–3; Transcript (8 April 2021), p 37 at lines 15–25 and p 38 at line 1.

[note: 285]PCB, Vol 7 at Tab 76.

[note: 286]PCB, Vol 7 at Tab 73; PWS at para 43(c).

[note: 287]DRS at para 40.

[note: 288]DRS at para 65.

[note: 289]DRS at para 34.

[note: 290]DYHK, p 5 at para 12; Transcript (9 April 2021), p 120 at lines 15–25; PWS at para 37.

[note: 291]AWYL-2, p 7 at para 13.

[note: 292]AWYL-1, p 28 at paras 8–10.

[note: 293]AWYL-2, p 7 at para 13.

[note: 294]Transcript (9 April 2021), p 75 at lines 13–19 and p 76, lines 10–12.

[note: 295]YSM-1, p 33 at paras 104(a)–104(b).

[note: 296]TKP-1, p 37 at para 40.

[note: 297]Transcript (16 April 2021), p 183 at lines 16–19.

[note: 298]PWS at para 202.

[note: 299]Transcript (19 April 2021), p 51 at lines 11–14.

[note: 300]Transcript (19 April 2021), p 61 at lines 8–12.

[note: 301]Transcript (19 April 2021), p 100 at lines 21–24.

[note: 302]PWS at paras 206–208.

[note: 303]DWS at para 175.

[note: 304]AWYL-2, p 8 at para 16.

[note: 305]AWYL-2, p 14 at para 20.

[note: 306]AWYL-2, p 14 at para 21.

[note: 307]AWYL-2, pp 9–13 and 15.

[note: 308]AWYL-2, p 14 at para 21.

[note: 309]Transcript (8 April 2021), p 122 at lines 19–25 and p 123 lines 1–4.

[note: 310]Transcript (8 April 2021), p 144 at lines 10–18 and p 145 at lines 10–16.

[note: 311]AWYL-2, p 16 at Table 8; Transcript (6 April 2021), p 73 at line 19.

[note: 312]AWYL-2, p 16 at para 22.

[note: 313]Transcript (8 April 2021), p 144 at lines 20–25 and p 145 at lines 17–22; PCB, Vol 7, Tab 88 (Plaintiff's Preliminary Submissions on Expectation Loss) at para 11.

[note: 314]ATS-1, p 14 at paras 4.6–4.7.

[note: 315]ATS-1, p 92, Appendix 13 at Figure 1.

[note: 316]ATS-1, p 27 at para 6.44 and p 35 at para 6.81.

[note: 317]Transcript (14 April 2021), p 7 at lines 9–22 and p 8 at lines 2–6.

[note: 318]Transcript (14 April 2021), p 13 at lines 9–19; p 16 at lines 4–18; and p 19 at lines 2–14.

[note: 319]YSM-1, p 33 at para 101; YSM-2, p 10 at para 17; Transcript (16 April 2021), p 29 at lines 9–11.

[note: 320]Transcript (16 April 2021), p 29 at lines 13–16.

[note: 321]Transcript (16 April 2021), p 9 at lines 10–16 and p 30 at lines 10–14.

[note: 322]See, *eg*, YSM-1, p 24 at para 72 and p 28 at para 83.

[note: 323]Transcript (16 April 2021), p 31 at lines 2–12 and p 191 at lines 13–24.

[note: 324]Transcript (16 April 2021), p 192 at lines 5–9.

[note: 325]Transcript (15 April 2021), p 117 at lines 1–5.

[note: 326]TKP-5, p 1 at para A.

[note: 327]PWS at paras 209–213; PRS at para 55.

[note: 328]Transcript (19 April 2021), p 188 at lines 18–22.

[note: 329]DWS at para 118.

[note: 330]Transcript (14 April 2021), p 143 at lines 11–16 and 19–25; p 144 at lines 1–8.

[note: 331]Transcript (19 April 2021), p 134 at lines 20–22 and p 153 at lines 1–9.

[note: 332]PWS at paras 211(c)–211(d).

[note: 333]DRS at para 77.

[note: 334]DWS at para 124.

[note: 335]2AB, Vol 6 at p 2893; AWYL-2 at p 9 (Table 2).

[note: 336]2AB, Vol 6 at pp 3094–3095; AWYL-2 at p 10 (Table 3).

[note: 337]2AB, Vol 6 at pp 3344–3345; AWYL-2 at p 11 (Table 4).

[note: 338]2AB, Vol 7 at p 3442; AWYL-2 at p 12 (Table 5).

[note: 339]2AB, Vol 7 at pp 3746 and 3788; AWYL-2 at p 13 (Table 6).

[note: 340]DWS at para 174.

[note: 341]Transcript (15 April 2021), p 160, lines 4–9 and p 161 at lines 18–25.

[note: 342]PWS at para 132.

[note: 343]Transcript (16 April 2021), p 25 at lines 15–17.

[note: 344]Transcript (16 April 2021), p 13, lines 22–25 and p 14, lines 1–4.

[note: 345]Transcript (16 April 2021), p 54 at lines 19–23.

[note: 346]Transcript (16 April 2021), p 202 at lines 13–25 and p 203, lines 1–12.

[note: 347]AWYL-2 at pp 9–13.

[note: 348]YSM-2, p 9 at para 14.4; TKP-5, p 3 at para C.

[note: 349]ATS-1, p 99, Appendix 15.

[note: 350]ATS-1, p 14 at para 4.10.

[note: 351]ATS-1, p 100, Figure 3 at note A.

[note: 352]Exhibit D2 at p 1.

[note: 353]TKP-5, p 3 at para D.

[note: 354]TKP-1, pp 39–40 at para 52.

[note: 355]Transcript (19 April 2021), p 135 at lines 1–3.

[note: 356]TKP-5, p 3 at para D.

[note: 357]ATS-1, p 26 at para 6.34 (Figure 7) and p 28 at para 6.48 (Figure 8); read with TKP-5, p 3 at para D (Table 4).

[note: 358]AWYL-2, p 17 at Table 9 ($12,756,645).

[note: 359]YSM-2, p 10 at para 17; Exhibit D2, p 2 at Table A (based on a three-month rent-free fitting-out period).

[note: 360]TKP-5, p 3 at para 2.

[note: 361]PWS at para 125.

[note: 362]ATS-1, p 16 at para 5.2 and p 19 at para 5.16.

[note: 363]ATS-1, p 44 at paras 7.1–7.2 and p 45 at para 7.5, Figure 24.

[note: 364]DWS at paras 93–96.

[note: 365]Defendant's Opening Statement at para 31.

[note: 366]YSM-1, p 14 at para 35 and p 32 at para 96.

[note: 367]DWS at paras 93–94.

[note: 368]Transcript (15 April 2021), p 37 at lines 4–7.

[note: 369]AWYL-1, p 74 at para 120.

[note: 370]TKP-1, p 34 at para 25.

[note: 371]DWS at paras 95 and 243.

[note: 372]PWS at paras 108–112.

[note: 373]ATS-1, pp 626–629; DWS at para 246.

[note: 374]2AB, Vol 8 at pp 4005, 4031 and 4034; DWS at para 249.

[note: 375]2AB, Vol 8 at p 4033.

[note: 376]Transcript (9 April 2021), p 128 at lines 4–23.

[note: 377]Transcript (25 March 2021), p 160 at lines 3–18.

[note: 378]DWS at para 256.

[note: 379]PRS at para 100.

[note: 380]TKP-1, p 31 at para 5.

[note: 381]PWS at paras 10, 141–144 and 150.

[note: 382]ATS-1, p 23 at para 6.18 and pp 70–71 (Appendix 7).

[note: 383] AWYL-1, p 20 at para 2.

[note: 384] Transcript (7 April 2021), p 120 at lines 19–25 and p 121 at lines 1–9.

[note: 385] Transcript (7 April 2021), p 125 at lines 1–25 and p 126 at lines 1–2.

[note: 386] DWS at para 139.

[note: 387] YSM-1, p 33 at para 100.

[note: 388] TKP-1, p 31 at para 7.

[note: 389] Transcript (16 April 2021), p 121 at lines 16–20.

[note: 390] Transcript (16 April 2021), p 121 at lines 14–15.

[note: 391] Transcript (16 April 2021), p 122 at lines 1–15.

[note: 392] TKP-1, p 33 at paras 10–15.

[note: 393] PWS at para 132.

[note: 394] ATS-1, p 15 at para 4.12.

[note: 395] PWS at paras 151–152; DWS at para 145.

[note: 396] ATS-1, p 25 at para 6.33; AWYL-1, p 61 at para 82.

[note: 397] YSM-1, p 33 at para 100 (read with TKP-1 at p 19, para C4.1).

[note: 398] PWS at para 10; DWS at paras 145–146.

[note: 399] Transcript (1 April 2021), p 8 at lines 10–16.

[note: 400] PWS at paras 10 and 153; PRS at para 45.

[note: 401] DWS at para 152.

[note: 402] Transcript (15 April 2021), p 37 at lines 4–7.

[note: 403] ATS-1, p 114 (Appendix 18).

[note: 404] ATS-1, p 44 at para 7.2.

[note: 405] AWYL-1, p 62 at para 87.

[note: 406] Transcript (8 April 2021), p 13 at lines 10–16 (read with DCB, Vol 8, Tab 161 at p 1).

[note: 407] AWYL-1, p 62 at paras 88–90.

[note: 408] AWYL-1, p 62 at para 91; DYHK, p 7 at paras 20–21.

[note: 409] Transcript (25 March 2021), p 32 at lines 8–10.

[note: 410] DYHK, pp 8 at paras 24–25.

[note: 411] DYHK, pp 8–9 at paras 23–26.

[note: 412] YSM-1, p 34 at para 105.

[note: 413] YSM-1, p 22 at paras 59, 64 and 89–91.

[note: 414] TKP-1, p 34 at para 25.

[note: 415] TKP-1, p 33 at para 21.

[note: 416] TKP-1, p 34 at para 22.

[note: 417] TKP-1, p 34 at paras 23–24.

[note: 418] TKP-1, p 35 at para 25.

[note: 419] PRDC at para 44A.3.

[note: 420] DWS at para 160.

[note: 421] Transcript (19 April 2021), p 125 at lines 1–18 and p 128 at lines 6–14.

[note: 422] 2AB, Vol 8 at p 4215.

[note: 423] YSM-1 at p 142.

[note: 424] Transcript (9 April 2021), p 125 at lines 4–11.

[note: 425] Transcript (19 April 2021), p 131 at lines 6–10.

[note: 426] Transcript (8 April 2021), p 16 at lines 8–11.

[note: 427] Transcript (19 April 2021), p 130 at lines 24–25 and p 131 at lines 1–2.

[note: 428] PWS at para 95.

[note: 429]Transcript (8 April 2021), p 19 at lines 17–20.

[note: 430]YSM-1, p 33 at para 104.

[note: 431]TKP-1, p 37 at para 41.

[note: 432]YSM-1, p 34 at para 105.

[note: 433]Transcript (16 April 2021), p 65 at lines 1–4 and 11–14; p 67 at lines 8–12; p 70 at lines 17–25; and p 71 at lines 1–2.

[note: 434]Transcript (19 April 2021), p 93 at lines 22–25 and p 94 at lines 1–4.

[note: 435]DRS at para 69.

[note: 436]TKP-1, p 37 at para 41.

[note: 437]Transcript (7 April 2021), p 73 at lines 2–20.

[note: 438]PWS at para 162.

[note: 439]AWYL-1, p 9 at para 18 (Chart A1.1).

[note: 440]ATS-1, p 32 at para 6.64.

[note: 441]TKP-1, p 24 at para F3.3.

[note: 442]TKP-1, p 37 at para 42; TKP-4, p 3 at Table 1 (Scenario 1).

[note: 443]ATS-1, p 32 at para 6.63 (Figure 11); TKP-2 at p 12 (Table 1).

[note: 444]PWS at paras 159–160.

[note: 445]ATS-2 at p 29.

[note: 446]TKP-4, p 3 at Table 1 (Scenario 3).

[note: 447]YSM-1 at p 34, para 105(a).

[note: 448]Transcript (16 April 2021), p 64 at lines 6–10 and p 67 at lines 8–10.

[note: 449]ATS-1, p 14 at paras 4.6–4.7 and p 115 (Appendix 18); ATS-2 at p 31 (read with p 27 for the rate for 2015).

[note: 450]Transcript (13 April 2021), p 162 at lines 5–11; Transcript (14 April 2021), p 8 at lines 2–6.

[note: 451]YSM-1, p 33 at para 101.

[note: 452]YSM-1, p 33 at paras 31 and 101; YSM-2 at p 8.

[note: 453]TKP-2, p 6 at para 9; TKP-4 at p 3 (Table 1, footnote 2).

[note: 454]AWYL-1, pp 63–66 at paras 92, 95, 97–101.

[note: 455]TKP-4, p 3 at Table 1 (Scenario 3) and TKP-3, p 10 at Table 3 (Scenario 2B) (for the rental rate for 2015), read with PCB, Vol 7, Tab 77 at p 1.

[note: 456]Transcript (7 April 2021), p 84 at lines 18–25 and p 85 at lines 2–15.

[note: 457]PCB, Vol 7, Tab 77 at p 2.

[note: 458]Transcript (8 April 2021), p 140 at lines 11–25 and p 141 at lines 1–3.

[note: 459]Transcript (9 April 2021), p 97 at lines 11–25; p 98 at lines 1–25; p 99 at lines 1–25; and p 100 at lines 1–15.

[note: 460]PCB, Vol 7, Tab 77 at p 2.

[note: 461]PCB, Vol 7, Tab 77 at p 2.

[note: 462]PWS at paras 175–177.

[note: 463]DRS at para 72.

[note: 464]ATS-1, p 100, Figure 3 at note A.

[note: 465]ATS-1, p 27 at para 6.44 and p 28 at para 6.49.

[note: 466]ATS-1, p 100 at Figure 3.

[note: 467]Exhibit D2 at p 1.

[note: 468]Transcript (19 April 2021), p 135 at lines 1–3; TKP-5, p 3 at para D.

[note: 469]ATS-1, p 29 at para 6.52.

[note: 470]DWS at paras 183–187.

[note: 471]ATS-1, p 37 at para 6.85 (Figure 16).

[note: 472]ATS-1, p 100 at Figure 3.

[note: 473]ATS-1, p 100 at Figure 3.

[note: 474]ATS-1, p 100 at Figure 3.

[note: 475]ATS-1, p 100 at Figure 3.

[note: 476]ATS-1, p 100 at Figure 3.

[note: 477]ATS-1, pp 39–41 at paras 6.89–6.96; ATS-2 at p 29; Transcript (13 April 2021), p 81 at lines 4–25 and p 82 at lines 1–6; Transcript (14 April 2021), p 89 at lines 15–19.

[note: 478]PWS at para 178.

[note: 479]TKP-1, p 40 at para 54.

[note: 480]TKP-1, p 28 at paras J4.1–J4.2.

[note: 481]PWS at para 179.

[note: 482]ATS-2 at p 29 (Scenario 3).

[note: 483]YSM-2, p 17 at para 31; Exhibit D2 at p 1.

[note: 484]TKP-4, p 5 at Table 2 (Scenario 2B).

[note: 485]DWS at paras 9 and 24.

[note: 486]DWS at para 9.

[note: 487]DWS at paras 10 and 25.

[note: 488]PRS at para 91; 2AB, Vol 10 at pp 4873 and 4901 (cl 2.26).

[note: 489]PWS at para 252.

[note: 490]Plaintiff's Bundle of Authorities for Closing Submissions at Tab 14.

[note: 491]DWS at para 25.

[note: 492]PRDC at para 44A.1.3.

[note: 493]LLCH, p 30 at para 55; Transcript (26 March 2021), p 121 at lines 3–7; PWS at para 255.

[note: 494]LLCH, p 31 at para 56(b); PWS at paras 256–259.

[note: 495]LLCH, p 31 at para 58; Plaintiff's Opening Statement at para 50(e); PWS at para 254.

[note: 496]DWS at para 36.

[note: 497]DWS at para 36.

[note: 498]DWS at para 37.

[note: 499]Plaintiff's Opening Statement at paras 41–43.

[note: 500]Defendant's Opening Statement at para 36.

[note: 501]ATS-1, p 29 at para 6.52.

[note: 502]PRS at para 89.

[note: 503]PRS at para 94.

[note: 504]PWS at para 260.

[note: 505]PWS at paras 264–265.

[note: 506]PRDC at para 44A.1.1.

[note: 507]Plaintiff's Opening Statement at para 50(f).

[note: 508]Transcript (28 June 2021), p 84 at lines 16–17.

[note: 509]DWS at para 26.

[note: 510]Transcript (28 June 2021), p 84 at lines 23–27.

[note: 511]LLCH, p 34 at para 62.

[note: 512]PWS at paras 261–263.

[note: 513]DWS at para 28.

[note: 514]PRS at para 116.

[note: 515]HC/ORC 34/2021 at para 6.