



COMPETITION TRIBUNAL OF SOUTH AFRICA

Case No: 48/CR/Aug10  
[011502]

In the matter between:

THE COMPETITION COMMISSION OF SOUTH AFRICA

Applicant

and

SASOL CHEMICAL INDUSTRIES LIMITED

Respondent

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| Panel             | : | Yasmin Carrim (Presiding Member)<br>Andreas Wessels (Tribunal Member)<br>Merle Holden (Tribunal Member)                                                                                                                                                                            |
| Heard on          | : | 13 May to 07 June 2013; 20 and 21 June 2013; 22 August 2013; 26 to 30 August 2013; closing arguments on 14 and 15 October 2013;<br>further submissions on 19 February 2014, 03 March 2014, 10 April 2014, 23 April 2014, 30 April 2014 and last submission received on 09 May 2014 |
| Order issued on   | : | 05 June 2014                                                                                                                                                                                                                                                                       |
| Reasons issued on | : | 05 June 2014                                                                                                                                                                                                                                                                       |

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Decision

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BACKGROUND

1. The Competition Commissioner ("Commissioner") initiated a complaint against SCI.
2. This initiation came about as a result of the Department of Trade and Industry ("DTI") requesting the Commission in August 2007 to investigate the pricing

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practices within the South African chemicals sector, specifically the polymers sector.

3. On or about 12 August 2010 the Commissioner referred the matter to the Tribunal alleging that SCI had contravened *inter alia* section 8(a) of the Act in relation to the production and sale of (i) purified propylene and (ii) polypropylene.
4. The referral was followed by interlocutory proceedings brought by the parties.
5. The Tribunal heard the main matter in the second half of 2013. Following requests for further information/clarifications, we received further submissions from the parties on 19 February 2014, 03 March 2014, 10 April 2014, 23 April 2014, 30 April 2014 and 09 May 2014.

### Witnesses

6. Both the Commission and SCI called numerous factual and expert witnesses.

#### *Commission's witnesses*

7. The Commission called the following factual witnesses to testify at the hearing:

7.1 Ms Miriam Jacob ("Jacob"), the Chief Operating Officer of SA Leisure (Pty) Ltd ("SA Leisure"). SA Leisure is a privately owned company that produces plastic consumer goods. Thus, in this context, SA Leisure is a polypropylene customer.

7.2 Mr Julius Lebi ("Lebi"), the Purchasing Director of Usabco (Pty) Ltd ("Usabco"). Usabco is a privately owned company that produces a range of (plastic) household products traded under the brand name *Addis*. Thus, in this context, Usabco is also a polypropylene customer.

7.3 Mr Joaquin Schoch ("Schoch"), the CEO of Safripol. Safripol is a supplier of polypropylene and high-density polyethylene to plastic converters for the manufacture of industrial and consumer plastic components and products. Thus, in this context Safripol is a

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purified propylene customer and a competitor in the production and sale of polypropylene.

8 The Commission called the following expert witnesses to testify at the hearing:

8.1 Dr Zavareh Rustomjee ("Rustomjee") who testified on the economic history of the development of the liquid fuels industry as part of South Africa's minerals and energy complex. Rustomjee was previously the Director-General of the DTI between 1994 and 1999, and has served as a member of the boards of directors of the Industrial Development Corporation of South Africa Ltd (IDC) (1995 - 2007); Sasol (2001 - 2002); PetroSA (2010 – present); and the Central Energy Fund (2007 - 2010). Rustomjee was also Chairman of the Task Team appointed by the Minister of Finance in May 2006 to consider possible reforms to the fiscal regime applicable to windfall profits in South Africa's liquid fuel energy sector.

8.2 As industry expert: Mr Richard Sleep ("Sleep"), the Senior Vice President of Nexant Consulting. His testimony related *inter alia* to the olefins and polyolefins sectors and in particular the production, uses and sale of propylene and polypropylene.

8.3 As financial expert: Prof Harvey Elliot Wainer ("Wainer" or "HW"), a Chartered Accountant and Registered Auditor and current Professor of Accounting at the University of the Witwatersrand.

8.4 As economics expert: Dr Simon Roberts ("Roberts" or "SR"), the former Chief Economist of the Commission and current head of the Centre for Competition, Regulation and Economic Development in the Faculty of Economic and Financial Sciences at the University of Johannesburg.

### SCI's witnesses

9 SCI called the following factual witnesses to testify at the hearing:

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9.1 Mr Leslie MacDougall ("MacDougall"), the Chief Business Analyst at Sasol Group Strategy and a former employee of Sasol Polymers, a division of SCI.

9.2 Mr Norbert Behrens ("Behrens"), the Group General Manager: Strategy of Sasol and a former employee of Sasol Polymers.

10 SCI called the following expert witnesses to testify at the hearing:

10.1 As industry expert: Dr Remko Koster ("Koster" or "RK"), a Director of Polyolefins for Europe and Africa at the petrochemical consultancy firm CMAI Europe Ltd.

10.2 As financial expert: Mr Greg Harman ("Harman" or "GH"), a Fellow of the Institute of Chartered Accountants in England and Wales and a Senior Managing Director in the Economic and Financial Consulting practice of FTI Consulting LLP, a global business advisory firm.

10.3 As economics expert: Dr Jorge Padilla ("Padilla" or "JP"), a Senior Managing Director and the Head of Compass Lexecon Europe, an economic consulting firm.

10.4 As further economics expert: Mr Stephan Malherbe ("Malherbe"), the Chairman and founder of Genesis Analytics, an economic consulting firm.

11 We note that certain of the above experts, including Roberts, Harman and Padilla, submitted more than one report. We therefore shall, for example, refer to Roberts' First Report as "SR1" and to his Second Report as "SR2" in the text and footnotes. The same principle applies to the other submitted expert reports.

### ***Period of analysis***

12 It is important to note that it was common cause that the complaint or infringement period, i.e. January 2004 to December 2007, represented the peak of the relevant industry cycle. Therefore, for the purposes of the section 8(a) analyses both parties'

experts expanded their analyses to cover one full chemical cycle considered the relevant cycle in relation to the complaint period. There was however a dispute between the parties over what period precisely represented one full cycle, i.e. when the relevant industry cycle began and ended. (We shall discuss this issue below under the price-cost test.)

***Propylene feedstock costs: central issue***

- 13 As stated above, a central issue in this case was how to treat the common cause fact that Synfuels enjoys a cost advantage in the production of feedstock propylene. The Commission said that it is SCI's low feedstock propylene costs which form the "*very basis on which the case has been referred by the Competition Commission*".<sup>1</sup> SCI labelled this issue the "feedstock hurdle".
- 14 The question that arose was how one should deal with this feedstock propylene cost "advantage" in the determination of the economic value of the purified propylene and polypropylene produced and sold by SCI during the complaint period.
- 15 The Commission argued that the Tribunal, in the excessive pricing assessment, should take into account SCI's feedstock propylene cost advantage given SCI's particular characteristics and history (as part of Sasol). This was allegedly so because SCI received very significant state support in the past and it had neither innovated, nor taken risks in arriving at its alleged dominant market positions in purified propylene and polypropylene in South Africa (this is explained in more detail below).
- 16 The Commission therefore started off its price-cost comparison using the actual prices paid by SCI for the feedstock (i.e. not making allowance for the feedstock cost advantage) and indeed presented its ultimate case on this basis. This means that the Commission's case was that the economic value of both purified propylene and polypropylene sold by SCI during the complaint period must be determined on the basis of SCI's reflected feedstock propylene costs in its accounts, or the even lower "true" value for the feedstock. In the latter case, the Commission, in its analysis, reduced the actual feedstock prices paid by SCI (as reflected in its accounts) by doing

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<sup>1</sup> Transcript, Roberts, page 872.

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its own calculation of Synfuels' "true" Fuel Alternative Value (FAV) for its feedstock propylene (this will be explained below).

17 Given the Commission's approach to SCI's feedstock propylene cost "advantage", SCI argued that this was not a case about excessive prices at all. Padilla described it as *"a refusal to pass on my cost advantages case, and that's a new type of case"*.<sup>2</sup>

18 SCI argued that the Tribunal must respect a (dominant) firm's specific cost advantage(s), in this case SCI's low feedstock propylene costs, since any other approach would remove the firm's incentives to invest in innovative and risky cost-reducing and profit-maximising activities. SCI thus contended that one must disregard for all time and all purposes SCI's low feedstock propylene costs in the excessive pricing enquiry.

19 The above conceptual issue is fundamental to a determination of this matter. This issue straddles, in particular, the entire price-cost test exercise done by both parties' expert witnesses, and also extends to the experts' international price comparisons. Both parties agreed that this issue was at the core of that which we had to decide.

## MARKETS

### *Vertical relationship*

20 The production of purified propylene and polypropylene is related as follows: polypropylene is produced from purified propylene, which is in turn produced by purifying feedstock propylene, which is in turn produced as a by-product of Sasol's fuel production.

21 We further note that in terms of the production of polypropylene, SCI has integrated purification and polypropylene manufacturing operations. The experts therefore assessed costs on the basis of this integrated production. We further note that since Sasol is vertically integrated in the relevant markets it may take profits at different levels, including feedstock propylene, purified propylene and polypropylene.

### *Feedstock propylene as by-product*

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<sup>2</sup> Transcript, Padilla, page 1781.

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- 22 Synfuels is the only significant producer in South Africa of feedstock propylene.
- 23 As explained in more detail below, the pricing of feedstock propylene is related to the opportunity cost (i.e. 'fuel alternative value' or FAV) rather than the actual cost of producing the feedstock propylene.
- 24 Feedstock propylene is a direct input in the production of purified propylene and represents the main cost in the production of the latter. According to the Commission, the propylene feedstock sold to Sasol Polymers comprises [70 – 100]% of the variable production costs of polymer-grade propylene after purification.<sup>3</sup> MacDougall submitted that propylene feedstock accounts for about [80 – 100]% of the variable production costs of a propylene purifier and indirectly approximately [70 – 100]% for a polypropylene producer.<sup>4</sup>

### ***Upstream market: purified propylene***

- 25 SCI is the only significant producer in South Africa of purified propylene. Sapref also produces a relatively small amount of feedstock propylene in South Africa that it purifies and sells to Safripol.
- 26 SCI processes the purified propylene internally and also sells purified propylene to Safripol. We note that during the complaint period Safripol was SCI's only external purified propylene customer.
- 27 It was common cause that the manufacturing and supply of purified propylene is a distinct relevant product market and that the geographic scope of this market is national.<sup>5</sup>
- 28 Sleep explained that most of the purified propylene produced is actually consumed by the companies that make it to manufacture other chemicals. He said that a smaller proportion is bought and sold either on or adjacent to the site where it is made, the refinery or the steam cracker. For example, in the United States and North Western Europe there are pipeline grids that connect multiple producers and consumers of purified propylene and allow for the establishment of a market.<sup>6</sup>

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<sup>3</sup> SR1, record page 50B.

<sup>4</sup> MacDougall's witness statement, paragraph 6.8, page 596B.

<sup>5</sup> *Inter alia* Economic Expert Minutes, page 2306B.

<sup>6</sup> Transcript, page 672, lines 8 to 18.

29 It was further agreed that SCI is a dominant firm in terms of the Act in the supply of purified propylene in South Africa.<sup>7</sup> During the complaint period, SCI's national market share for the production and supply of purified propylene, measured by capacity, was in excess of 90%.<sup>8</sup> It is thus abundantly clear that SCI is a dominant firm in terms of section 7 of the Act.

30 In terms of price setting during the complaint period, we note that SCI determined its domestic price of purified propylene by reference to the domestic prices of polypropylene, in terms of a formula expressed as a ratio (this is explained in more detail below).

***Downstream market: polypropylene***

31 Purified propylene is the main input in the manufacturing of polypropylene. Polypropylene is used in downstream industries as an input in the production of finished plastic products by firms that are colloquially referred to as "plastic converters".

32 SCI and Safripol are the only producers of polypropylene in South Africa and during the complaint period they sold polypropylene to various plastic converters.

33 We note that SCI and Safripol produced far more polypropylene during the complaint period than was required by the plastic converters located in South Africa, i.e. local supply far exceeded local demand at the polypropylene prices charged. SCI therefore exported large quantities of polypropylene to various export destinations during the complaint period, with the bulk of exports going to China. Padilla confirmed that Sasol Polypropylene sold just over half of its polypropylene production domestically in the period 2004 to 2007. SCI exported approximately [40 – 60]% of its locally produced polypropylene over the complaint period and this position was no different in 2002 and 2003.<sup>9</sup> Safripol also exported polypropylene from South Africa during the complaint period.<sup>10</sup>

34 We note that SCI uses import parity pricing (IPP) for its domestically sold polypropylene. The Commission summarised this pricing as follows: local prices are

<sup>7</sup> Economic Expert Minutes, page 2306B; also see JP1, paragraphs 14.19 to 14.21, page 890B.

<sup>8</sup> Record page 26A; SR1, paragraph 118, page 71B.

<sup>9</sup> Exhibit 42, page 81; JP1, Table 9, page 736B.

<sup>10</sup> Schoch's witness statement, paragraphs 17 to 19, page 26B.



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import parity based, with notional shipping and related costs added to an FOB South Korea raffia grade price to get to a coastal price. Inland transport costs are added to get to an inland delivered price. Sasol calculates a monthly average delivered price at the coast and inland, which it then weights by the volumes sold in each region to get a single monthly indicative delivered price. To get to homopolymer grade and other grades, typical margins or premiums are added to this price. Customers may qualify for rebates or discounts off this price.<sup>11</sup>

35 We further note that during the complaint period, SCI achieved export polypropylene prices that were substantially lower than the prices that it charged to its domestic customers.

36 It was common cause that the production and sale of polypropylene is a distinct relevant product market.

37 The experts however disagreed on the geographic scope of this market.<sup>12</sup> The Commission argued that the market is national and that SCI is a dominant firm in the local production and sale of polypropylene. SCI, on the other hand, argued that the market is international or global and that SCI is not a dominant firm in such broader geographic market.

38 There was no dispute that there are some imports of the polypropylene grades produced by SCI and that every grade produced by SCI could be imported. There was also no dispute that SCI cannot price significantly above IPP for any extended period of time. IPP therefore represents a ceiling price for polypropylene.

39 We have however found no evidence of a global polypropylene price or that prices in different regions move "*closely together*" as suggested by Koster. Any broad similarity in movement between the prices may be attributable to a link with the price of crude oil.

40 We further note that SCI has been able to prevent arbitrage of polypropylene by exporting polypropylene on a delivered basis.

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<sup>11</sup> SR1, paragraph 486, pages 155B and 156B.

<sup>12</sup> *Inter alia* Economic Expert Minutes, page 2306B.

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- 41 Padilla testified that the Tribunal could suspend its judgment on market definition and first investigate whether SCI's polypropylene prices were excessive during the complaint period. If they were, the Tribunal would then find that the polypropylene market was national. If they were not, that would be the end of the enquiry.<sup>13</sup> Padilla said *"And if we concluded that there was no evidence of excessive pricing, then there is no reason to be concerned about the cellophane fallacy and the finding could be one of global market, not anticompetitive pricing. On the contrary, if my enquiry would have resulted in a finding of excessive pricing, then I would have seen a finding of narrow market based on cellophane fallacy justified."*<sup>14</sup>
- 42 We agree that the correct approach to market delineation in this case would be to first determine if SCI's polypropylene prices during the complaint period were or were not excessive. In reaction to questions of the Tribunal, Roberts explained: *"... if it's an excessive pricing case and you are taking the price that's already charged and clearly that's the outcome of the exertion of market power, so I mean, you can't take that price. You have to evaluate what would be the price under competitive conditions. So, it's very different from a merger where you are looking at what would the merger change. So, you can't take a price, which reflects the existing exertion of market power and say well you can't push it any further. I mean, that's not a sensible starting place."*<sup>15</sup>
- 43 Furthermore, SCI recognises internally that it has a protected position in its IPP price build up and does not view imports as a rival in the sale of polypropylene. This appears expressly from an internal presentation from 2004.<sup>16</sup>
- 44 As indicated above, the conclusion as to whether SCI's polypropylene prices in South Africa during the complaint period were excessive answers the question as to whether the polypropylene market is national or international in its geographic scope. Given the above considerations as well as having ultimately concluded that SCI's polypropylene prices were excessive during the complaint period, we conclude that the geographic dimension of the polypropylene market that should be considered in *this* analysis is national in scope.

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<sup>13</sup> Transcript, Padilla, *inter alia* pages 1784 to 1786, 1825 and 2309.

<sup>14</sup> Transcript, Padilla, page 2309.

<sup>15</sup> Transcript, Roberts, page 1451.

<sup>16</sup> Exhibit 29 at 17.

45 SCI has a market share (measured by capacity) of above 60% during the complaint period in a national market for polypropylene and therefore is a dominant firm in terms of the Act.<sup>17</sup>

## LEGAL AND CONCEPTUAL FRAMEWORK

### ***Definition of an excessive price***

46 In terms of section 8(a) of the Act *"It is prohibited for a dominant firm to - (a) charge an excessive price to the detriment of consumers"*.

47 Section 1(1)(ix) of the Act defines an "excessive price" as: *"a price for a good or service which - (aa) bears no reasonable relation to the economic value of that good or service; and (bb) is higher than the value referred to in sub-paragraph (aa)."*

48 The Act, however, contains no legislative definition of economic value.

### ***Competition Appeal Court (CAC): Mittal judgement***

49 Before we deal with the issue of economic value, we first contextualise the leading jurisprudence on excessive pricing in South Africa. This is the judgement of the CAC in *Mittal*.

50 The Commission's and SCI's different interpretations of certain (selected) portions of this judgement received much attention during our proceedings. In particular SCI proposed that the CAC had laid down, as precedent, two tests for the determination of an excessive price, dubbed "Mittal 1", and a second test, "Mittal 2", consisting of a number of comparative methods involving prices and costs. We do not accept that the CAC in *Mittal* establishes the "Mittal 1" approach as a distinct precedent but rather the CAC was wishing to provide us with a conceptual framework and some guidance on how to approach excessive pricing enquiries.

51 In *Mittal* two complainants<sup>18</sup> filed complaints with the Commission against Mittal for the alleged contravention of *inter alia* sections 8(a) of the Act. The complaints related to the manufacture and distribution of flat steel products in South Africa. After

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<sup>17</sup> Founding Affidavit at [34], page 18A, Answering Affidavit at [76], page 202A; SR1 at [120], page 71B; even if imports are included SCI's market share is still well above 50%.

<sup>18</sup> Namely Harmony Gold Mining Company Ltd and Durban Roodepoort Deep Ltd.

investigation of the matter the Commission issued a notice of non-referral of the complaints. The complainants themselves then referred the matter to the Tribunal and the Tribunal on 27 March 2007 found that Mittal had contravened section 8(a) of the Act. Mittal then took the Tribunal's decision on appeal. The CAC set aside the Tribunal's orders<sup>19</sup> and remitted the matter to the Tribunal for the hearing of *viva voce* evidence by the parties in relation to certain matters.

52 The ratio of the CAC's judgement was that it had disagreed with the *approach* that had been adopted by the Tribunal in its determination of an excessive price.

53 The Tribunal had taken what has since that decision come to be known as a "structural approach" and found it unnecessary to consider the evidence regarding *actual* pricing and costs and their relation to the 'reasonable value' of the steel. Critical to note is that the Tribunal did not base its decision on Mittal's *actual* price and costs levels. The Tribunal found that Mittal shorted the domestic market by ensuring that the excess production was not available in South Africa at a lower price than its own domestic price. In this way Mittal maintained its domestic price at a higher level than would have been the case if the excess were also made available to merchants at a lower price in the domestic market. In other words the Tribunal had evaluated Mittal's prices on the basis of an examination of the market structure. It held that if the examination of the structure of the market reveals that a price is determined by cognisable competition considerations then that price will bear a reasonable relationship to the economic value of the good in question.<sup>20</sup>

54 The CAC rejected this approach. The CAC found that the Tribunal is bound to apply the Act and could not ignore the wording of section 8(a). It stated "*If the proper interpretation of s 8(a) requires the Tribunal to engage with price levels, it must do so. Even less justifiable is the taking of liberties with the language of the Act so as to make s 8(a) serve the Tribunal's preference to deal with market structure rather than price level.*"<sup>21</sup> The CAC went on to say "*The words chosen by the legislature when enacting s 8(a) (and the definition of 'excessive price')* clearly and unambiguously indicate that what is prohibited is the 'charging' of an excessive 'price', not so-called

<sup>19</sup> Orders of 27 March 2007 (merits of section 8(a) case) and 06 September 2007 (judgement on remedies).

<sup>20</sup> *Harmony Gold Mining v Mittal Steel* (13/CR/FEB04) paragraph 147. Mittal (CAC) at paragraph [18].

<sup>21</sup> Mittal (CAC) at paragraph [28].

*'ancillary abusive conduct' designed to take advantage of a particular market structure.*<sup>22</sup> It concluded on the point by saying "... a court is required to engage with the text and the language employed therein; it must produce an interpretation which it can justify after this engagement with the legislation. It may not eschew the text to promote its own theory, however attractive the latter may appear to be."<sup>23</sup>

55 In other words, the court held, that it was not permissible for the Tribunal to avoid making an actual determination of prices and engage in the comparative exercise between price and economical value as required by the wording of section 8(a) read with section 1(1)(ix).

56 The CAC found that the wording of section 8(a), read with the definition of an excessive price in section 1, calls for the making of certain distinct enquiries. It confirmed that an analysis of a complaint under section 8(a) of the Act must involve each of the following steps:

56.1 first, the factual determination of:

- (i) the actual price of the good or service in question alleged to be excessive; and
- (ii) the economic value of that good or service (expressed as a monetary amount); and

56.2 second, the exercise of value judgments as to whether:

- (i) the difference between the actual price and economic value is unreasonable; and
- (ii) if so, whether the charging of the excessive price is to the detriment of consumers.<sup>24</sup>

57 The CAC itself did not determine whether Mittal's prices indeed were excessive or not. Instead, recognising the specialist administrative function of the Tribunal, it ordered that the matter be remitted to the Tribunal to consider certain evidence and

<sup>22</sup> Mittal (CAC) at paragraph [28].

<sup>23</sup> Mittal (CAC) at paragraph [28].

<sup>24</sup> Mittal (CAC) at paragraph [32].

then to determine, on all of the evidence before it, whether Mittal's prices were excessive or not.

58 In remitting the matter to the Tribunal, the court, and in appreciation of the difficulty involved in excessive price enquiries, provided some guidelines on the theory and principles that the Tribunal could have regard to when conducting such determinations. The court suggested that approaches taken in foreign jurisdictions could also be the source of guidance, for example the approach of the European Court of Justice (ECJ) in the leading case of *United Brands*<sup>25</sup>.

59 In that case the European Commissioner had argued that *"the assessment that a price actually charged is excessive and hence unfair, could be made purely by comparing that price with other prices."*<sup>26</sup> The ECJ rejected this approach and ruled that a mere comparison of prices at which the seller actually sold a product to different buyers in the same relevant market was an insufficient basis to conclude that the higher price was 'excessive' – even where the price is 50% higher than the lower price.<sup>27</sup>

60 Instead the ECJ urged at paragraph 251: *"This excess could inter alia be determined objectively if it were possible for it to be calculated by making a comparison between the selling price of the product in question and its cost of production, which would disclose the amount of the profit margin; however the Commission has not done this since it has not analysed UBC's costs structure"*.<sup>28</sup>

61 Referring to *United Brands* the CAC in paragraph 49 explained that the effect of *United Brands* is that an 'abuse' can be found in the charging of an 'unfair price' and that the latter may be a price which has 'no reasonable relation to the economic value of the product' and noted that *"The court did not define what was meant by this term nor did it explain how the absence of a reasonable relationship had to be assessed. Our legislation proceeds from a different premise. It borrowed from United Brands the idea of a price which 'bears no reasonable relation to*

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<sup>25</sup> *United Brands Company and United Brands Continental BV v The Commission of the European Communities* [1978] 1 CMLR 429.

<sup>26</sup> Mittal (CAC) at paragraph [39].

<sup>27</sup> See Mittal (CAC) paragraphs [35] to [39].

<sup>28</sup> See paragraph 251 of the *United Brands* judgement.

*economic value of that good or service'. What this expression means and how it should be determined must be ascertained by the empirical enquiry referred to.*"<sup>29</sup>

- 62 Hence as a first step it was necessary to determine the dominant firm's costs.
- 63 While supporting the use of comparative jurisprudence in enquiries of this nature, the CAC also stressed that we should do so with caution.<sup>30</sup> Although section 8(a) has its origin in the jurisprudence of European competition law, "*As important a consideration as that may be, the Supreme Court of Appeal has cautioned that our Act must be interpreted primarily with reference to its own language. Thus, while s 1(3) of the Act provides that when interpreting and applying the statute, appropriate foreign and international law may be considered, it is nonetheless 'necessary to view the competition laws of other countries in their proper historical, social and institutional contexts'*"<sup>31</sup>

#### *Economic value of a good or service*

- 64 The CAC then went on to discuss the notion of economic value which is not defined in our Act. "*The expression 'economic value' is not defined but must be interpreted to give it a definite meaning corresponding to the intention of the legislature – a meaning capable, moreover, of practical application*".<sup>32</sup>
- 65 The court refers to the *amici curiae* who submitted that the legislature must have intended, by using the expression 'economic value', an amount of money which would notionally be the price or value of the good or service if market conditions other than those actually prevailing were to prevail.<sup>33</sup>
- 66 The CAC went on to say that what the legislature must be taken to have intended by 'economic value' "*is the notional price of the good or service under assumed conditions of long-run competitive equilibrium*".<sup>34</sup> This requires the assumption that, in the long run, firms could enter the industry in the event of a higher than normal rate of return on capital, or could leave the industry to avoid a lower than the

<sup>29</sup> Mittal (CAC) at paragraph [49].

<sup>30</sup> Mittal (CAC) at paragraph [25].

<sup>31</sup> Mittal (CAC) at paragraph [26].

<sup>32</sup> Mittal (CAC) at paragraph [34].

<sup>33</sup> Mittal (CAC) at paragraph [40].

<sup>34</sup> Mittal (CAC) at paragraph [40].

normal rate of return.<sup>35</sup> We note that although the conceptual framework advanced by the CAC is that of a notional price, it also made it clear that economic value must be (i) an objective; and (ii) competitive-market standard, as discussed below (see paragraph 78 below).

- 67 The CAC then made it clear that economic value is not a price set under conditions of perfect competition in the short-run, *"but rather competition that would be effective enough in the long run to eliminate what economists refer to as 'pure profit' – that is a reward of any factor of production in excess of the long-run competitive norm which is relevant to that industry or branch of production."*<sup>36</sup> Pure profit is profit that is over and above the "normal" or a "fair" rate of profit.<sup>37</sup> An exclusive advantage of a particular producer that competitors cannot emulate, such as SCI's feedstock propylene advantage, would be what economists refer to as "pure" profit in the hands of the dominant firm.
- 68 The court added its own comment after footnote 65 by saying *"It is apparent that the court considered that a price corresponding to economic value is one which would allow a firm to reap only those trading benefits which it would reap under conditions of 'normal and sufficiently effective competition'"*.
- 69 The CAC further said in footnote 70 to paragraph 42: *"It is correct that the inquiry into economic value does not involve a view as to what value 'should' be. Nevertheless, a market has to be hypothesised by postulating a long-run competitive equilibrium and the cost conditions (including normal profit) that would then prevail."*
- 70 The economic underpinning of the above approach is that effective competition yields cost-reflective prices, and that the cost of a good or service is indicative of its economic value.<sup>38</sup> One therefore has to have regard to conditions of effective competition in the determination of the economic value of a particular good or service. This is an important consideration. In economic terms effective competition means rivalry between established firms in a given relevant market.

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<sup>35</sup> Mittal (CAC) at paragraph [40].

<sup>36</sup> Mittal (CAC) at paragraph [40].

<sup>37</sup> Mittal (CAC) at paragraph [40], footnote 64.

<sup>38</sup> See Mittal (CAC) *inter alia* paragraph [51].



- 71 We next deal with the methods that may be used to ascertain the economic value of a particular good or service as advanced by the CAC.

*Different methods may be considered to determine economic value*

- 72 The CAC found that “*different methods may be employed to ascertain the ‘economic value’ of the good or service concerned.*”<sup>39</sup> This is perfectly consistent with economic theory; theorists and economists recognise that there is no one-size-fits-all approach to the assessment of excessive pricing. There are various approaches, indicia and comparators and more than one may be relevant and of assistance in deciding a particular case, depending *inter alia* on the nature and characteristics of the market(s) in question and the availability and reliability of data.
- 73 The CAC further confirmed that the dominant firm’s own incurred cost is a starting point for the determination of the economic value of a good or service (see paragraph 123 below). The CAC also said that other methods may also be useful in a section 8(a) enquiry, *inter alia* by employing certain “shortcuts” by a process of inferential reasoning (see paragraphs 316 and 317 below).
- 74 Below we first deal with the issue of the treatment of SCI’s feedstock propylene cost “advantage” in the excessive pricing enquiry, and then discuss the disputes between the Commission’s and SCI’s experts regarding the various methods used to determine the economic value of the products in question and our assessment thereof.

## FEEDSTOCK PROPYLENE COST ADVANTAGE

- 75 As mentioned above, the appropriate treatment of SCI’s feedstock propylene cost advantage was highly disputed between the Commission and SCI and formed a critical element of this case. In short, the Commission argued that we - in this case – should take this advantage into account in the excessive pricing assessment since it is not the result of SCI’s own efforts; SCI’s argument, on the other hand, was that this advantage is peculiar to SCI and must be ignored in the assessment.

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<sup>39</sup> Mittal (CAC) at paragraph [49].

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- 76 The principal issue thus was whether or not one should take SCI's feedstock cost advantage into account in favour of SCI, given the peculiar circumstances as alleged by the Commission, namely that this advantage is not the result of SCI's own risk taking and innovation, but the result of its history of state support.
- 77 We start by explaining the general guidance given by the CAC with regards to the treatment of any special cost advantage(s) of the dominant firm in the assessment of the economic value of a good or service. We note that although the CAC gave no specific guidance in *Mittal* in relation to the abovementioned issues that the Commission advanced in this case, apart from acknowledging the importance of history and context in an analysis under section 8(a) (see paragraphs 96 and 97 below), we need to consider the CAC's general comments.
- 78 The court addresses the issue of the treatment of any special advantage(s) of the dominant firm in paragraph 43 where it said *"It seems to follow that, in determining the economic value of a good or service, the cost savings to the firm resulting from the subsidised loan or the lower than market rental - or indeed any other special advantage, current or historical, that serves to reduce the particular firm's cost below the notional competitive norm ought to be disregarded. Thus economic value is a notional objective competitive-market standard and not one derived from circumstances peculiar to the particular firm."* We note that the court refers to a "notional" yet "objective" and "competitive-market" standard.
- 79 The flip-side of this notion is addressed in the same paragraph where the CAC held: *"By parity of reasoning, accounting costs may reflect an uncompetitive inefficiency. The criterion of economic value, on the other hand, recognises only the costs that would be recovered in the long-run competitive equilibrium. Accordingly, it is possible that a dominant firm's price may be substantially and also unreasonably higher than economic value even when the accounting profit of the firm reveals no such picture"*.
- 80 However, the CAC in the same paragraph also said that if the actual price charged by the firm in question exceeds the economic value of the product or service, *"It is at this stage of the enquiry that circumstances peculiar to the particular dominant*

*firm would rationally come into the reckoning*" in the reasonableness enquiry (see paragraph 56.2 above).

- 81 The court further said *"It would seem sound, when considering whether the higher price bears a reasonable relation to economic value or not, to take into account the benefits flowing to the firm from the subsidised loan, long-term low rental, or other special advantage which may serve to reduce its own long-run average costs below the notional norm. Having regard to all the particular circumstances, it might then be concluded that no addition of 'pure' or 'economic' profit by means of a price higher than economic value could reasonably be justified, or that the extent of the excess which might otherwise be justified would fall to be reduced."*<sup>40</sup> We note that the court specifically held that regard must be had to *"all the particular circumstances"* of the case under scrutiny.

### **Commission's arguments**

- 82 The Commission's position was that the only cost advantages that should in an excessive pricing context be taken into account in favour of the dominant firm are those that are the product of its own risk taking and innovation. Although Roberts conceded that SCI's low feedstock propylene costs are firm-specific, he also argued that one has to consider the history of that business including that it was a former state-owned entity, as well as the nature of the overall fuels business in which it operates.<sup>41</sup>
- 83 The Commission's above argument implies that one must first determine the reasons for or origin of SCI's cost advantage before one can decide its treatment in the section 8(a) assessment.

### **SCI's arguments**

- 84 At a level of principle SCI argued that any cost advantage (or disadvantage) that is peculiar to it must be disregarded in the section 8(a) analysis, because it does not reflect the costs of the notional competitor on which the determination of economic value must be based. SCI further argued that it was both the product of innovation

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<sup>40</sup> Mittal (CAC) at paragraph [43].

<sup>41</sup> Roberts, transcript, page 1363.

and private investment and that it has itself engaged in innovation and risk taking, bringing numerous benefits to South African consumers and that there is no reason that SCI (and Sasol) should not be rewarded for doing so.

- 85 SCI further tried to argue that the CAC's statement that circumstances peculiar to the dominant firm come into the reckoning in the reasonableness enquiry (see paragraph 56.2 above) "*was made in passing without consideration or motivation*". It criticised the CAC for not explaining how this would come into the reckoning and further argued that the CAC was wrong and that this approach should not be followed by the Tribunal.<sup>42</sup>
- 86 SCI went on to argue that it simply does not rationally follow that, when one asks whether a price bears a reasonable relation to economic value, circumstances peculiar to the firm should come into the reckoning. On the contrary, the question whether the price of a product bears a reasonable relation to its economic value is also an objective question and not one dependent on whose price it is. SCI argued that one cannot sensibly say of the same price, for the same product, in the same market, at the same time, that it bears no reasonable relation to economic value if charged by (dominant) firm X, but that it does bear a reasonable relation to the same economic value if charged by (dominant) firm Y. It argued that the same price cannot be both reasonable and unreasonable.
- 87 SCI further argued that the CAC did not say, and could not possibly have suggested, that in the reasonableness enquiry the determination of economic value should be re-calculated on the basis of the circumstances peculiar to the dominant firm which were left out of account when economic value was calculated in the first place. It argued that this would make nonsense of the sense and logic of the CAC's approach to suggest that, after economic value has been assessed and determined, the reasonableness enquiry requires one to reassess and re-determine economic value afresh but this time on a different footing (which does not accord with the definition of economic value in *Mittal*).
- 88 SCI's above argument implies that we should treat (dominant) firms the same even if for example the one firm has taken risks and innovated and the other firm has not

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<sup>42</sup> Heads of Argument, paragraphs 398 and 399, page 184.

done so and simply attained its market position as a result of past protection and significant support from the state.

### Assessment

- 89 The issue raised by the Commission in this case is a novel one in the sense that in the standard theoretical case one would simply assume that a dominant firm's unique cost advantage that its competitors cannot replicate is the making of the firm's own risk taking and innovation, as also assumed by Padilla in this matter. This case thus is "unique" since, if the Commission is correct, SCI's alleged history of state support and no innovation on its part in purified propylene and polypropylene may require a different approach to the theoretical case as discussed in *Mittal*.
- 90 As highlighted above, the CAC in *Mittal* gave guidance in very general terms, on a non-factual basis, on the treatment of any special cost advantage of the dominant firm by specifically referring to two examples, namely a subsidised loan or a lower than market rental. The CAC did not have to and in fact did not deal in its judgement with the question of what a special advantage was or provide an analysis of how those two examples used arose. His Lordship thus was not mindful of and not addressing the specific type of situation that we are dealing with. We therefore cannot look to the guidance of the CAC in *Mittal* on the proper approach should 'pure profit' in the form of a special cost advantage of SCI not be the result of its own risk taking and innovation in the market(s) concerned, as alleged by the Commission in this case.
- 91 Thus, whilst both the Commission and SCI spent days debating the meaning and different interpretation of the CAC's general guidance in *Mittal*, the present case presents a set of alleged facts that was not specifically considered in *Mittal*. It therefore serves no purpose to discuss the Commission's and SCI's interpretations of, criticisms of and comments on those portions of the CAC's decision that deal with a 'special advantage'.
- 92 Furthermore, SCI cautiously placed emphasis on certain selected passages from *Mittal* to promote its case. Doing so distorts the essence of the judgment and blurs the message the Court sought to convey. One must consider the entire judgement

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in context and the essence of that decision, namely that the matter was remitted to the Tribunal and further that the CAC gave certain general guidance.

- 93 The court did not by any means suggest that its general guidance was rigid and an approach applicable in every instance irrespective of whether, on a more pragmatic and realistic basis and having regard to other facts, one could arrive at a different result. No court could possibly foresee all future circumstances related to an issue as complex as an excessive pricing assessment. In fact, the CAC acknowledged that the available literature compellingly illustrates that “[t]he assessment of excessive pricing is subject to substantial conceptual and practical difficulties ....”<sup>43</sup>
- 94 One must further be particularly cautious not to draw too bright a line between the so-called first and second stages of the assessment (see paragraph 56 above). The real distinction to be drawn lays in those advantages which are the product of the dominant firm’s own innovation, risk taking and investment, for example stemming from a patent or an invention.<sup>44</sup>
- 95 Our reading of *Mittal* is ultimately that we must take a broader view. Paragraph 43 and Footnote 70 of the judgement must be read in the context of the text that precedes and succeeds it. The court did not disregard the specific examples of cost advantages. The context however was a particular approach of determining in the first instance on a notional level what competitors’ costs would be in a notional competitive market. The court was concerned with a far broader and holistic approach. Furthermore, one must have regard to all relevant factors because ultimately one is trying to determine whether in a particular case the price charged in a particular environment and in particular circumstances was excessive. As highlighted above, the CAC advanced the same principle (see paragraph 81 above).
- 96 We have further taken guidance from both the CAC and the Constitutional Court with regards to the fact that one should consider our country’s unique history in the interpretation of our competition law. The CAC in *Mittal* specifically acknowledged

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<sup>43</sup> *Mittal* (CAC) at paragraph [29].

<sup>44</sup> For example, if a firm invents particular software or innovates and then patents, it will enjoy certain advantages as a result; this would be a return for its own efforts and risk taking and innovation and should be rewarded.

the importance of history and context in an analysis under section 8(a). The CAC acknowledged that legislative imperative when it was persuaded by Rustomjee's view that history matters.

97 The CAC in particular noted that the preamble to the Act *"includes a manifest concern with previous excessive concentrations of ownership and control within the national economy"*; and section 2 of the Act *"dictates that a history of such state largesse cannot be permitted to subvert competition nor should the market power inherited from the erstwhile status as a state enterprise be exerted with continued impunity."*<sup>45</sup>

98 The Constitutional Court has also noted this purpose: *"The Preamble to the Act records that the people of South Africa recognise, among other things, that discriminatory laws of the past imposed unjust restrictions on free and full participation in the economy by all South Africans. It calls for the opening up of the economy to enable all South Africans to have access to the control and ownership of the national economy. It declares that a credible competition law and effective structures to administer that law must be established in order to create an efficient functioning economy."*<sup>46</sup>

99 Davis furthermore explains that the democratically elected government in 1994 *"inherited an economic structure ... characterised by significant levels of concentration, dominated by powerful conglomerates and with a marked absence of competitive rivalry"*, whose power was entrenched by their being favoured as national champions with no effective local rivalry.<sup>47</sup>

100 Furthermore, in dealing with excessive pricing matters, competition authorities are concerned with pricing in markets characterised by high and non-transitory barriers

<sup>45</sup> Mittal (CAC) at paragraph [29].

<sup>46</sup> *Competition Commission of South Africa v Senwes Ltd* 2012 (7) BCLR 667 (CC), paragraph 2.

<sup>47</sup> Davis "Abuse of dominance, competition law and economic development: a view from the southern tip of Africa" in Hawk, B (ed) 2010 Annual Proceedings of the Fordham Competition Law Institute, Antitrust Law and Policy (Huntington: Juris Publishing, 2011) at 329, referring to Roberts "Competition policy, competitive rivalry and a developmental state in South Africa" O. Edigheji (ed) *Constructing a Democratic Developmental State in South Africa* (2010), at 224.

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to entry, i.e. where the dominant firm's position is entrenched. In particular, entrenched monopolies may hinder attempts by the state to liberalise markets.<sup>48</sup>

101 Where the dominant firm's position in a particular market is not the result of any innovation or risk-taking on its part but rather due to current or past exclusive or special rights, one therefore would want to have regard to those facts. Thus, part of the section 8(a) enquiry should be an explanation for why the dominant firm is able to charge a price above the economic value of the good or service in question – in particular, if this ability is the result of its own efforts (for example, risk taking or innovation), so that the high prices should be regarded as an appropriate reward for the firm's competitive efforts, or if it is simply the result of the firm taking advantage of its entrenched dominance, in which case its actions, to the extent that they harm consumers/customers, may be an abuse as contemplated in section 8(a).

102 We conclude that in the context of the history of our country and our Act it is indeed relevant, on a case-by-case basis, to consider the relevant specific facts -including the history of the dominant firm and specifically how its dominant market position(s) came about.

103 We next discuss Sasol's history in South Africa relating to state support.

### *Sasol's history of state support*

104 There was an abundance of evidence indicating that Sasol was created and protected by the State for a very considerable period of time.

105 Rustomjee testified to the relevance of Sasol's undisputed history of state support and consequent advantages it now enjoys as a result of "a very substantial pillar of support". He concluded that it is the development and inheritance prior to

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<sup>48</sup> See, for example, Motta and De Streel "Exploitative and Exclusionary Excessive Prices in EU Law", in Ehlermann, C-D and I. Atanasiu (eds) European Competition law Annual, 2003: What is an abuse of a dominant position (2006, Oxford: Hart Publishing); Motta Competition Policy: Theory and Practice, Cambridge University Press (New York, 2004) at 25; A Ezrachi and D Gilo "Are Excessive Prices Really Self-Correcting?" Journal of Competition Law and Economics (2009); A Ezrachi and D Gilo "Excessive pricing, entry, assessment, and investment: Lessons from the Mittal litigation" Antitrust Law Journal (2010); Evans "Why Different Jurisdictions Do Not (and Should Not) Adopt the Same Antitrust Rules" Chicago Journal of International Law (Summer 2009) at 161; *Harmony Gold Mining Company Ltd and another v Mittal Steel South Africa Ltd and another* [2007] 1 CPLR 37 (CT) at [98] – [106]; also see Roberts' evidence in chief, page 898, lines 4 to 11; and page 1094, line 20, to page 1095, line 9.



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privatisation, funded by South African tax payers, that is the source of Sasol's market power, not innovation.<sup>49</sup> Rustomjee testified *"I don't accept this idea that that was before privatisation and after privatisation, in the context of Sasol being able to leverage off the very significant support that was provided by the state in the prior period and in the subsequent period, because the protection continued before privatisation, during privatisation and after privatisation."*<sup>50</sup> This also ensured that Sasol was established and run with no rivalry and little risk since *"the state bore the bulk of the risk during the period of greatest risk"*.<sup>51</sup> This is because:

105.1 Sasol was supported, owned and controlled by the State from its establishment until its privatisation and to some extent beyond privatisation;<sup>52</sup> and

105.2 due to the strategic nature of the sector,<sup>53</sup> the State ensured, through legislation and regulation, that Sasol was sustainable, profitable and would not fail.<sup>54</sup>

106 The most significant legislative, regulatory and other measures imposed by the State to protect and benefit Sasol in particular comprised:

106.1 the protection of the synthetic fuel industry as a feature of public policy;<sup>55</sup>

106.2 an arrangement that service stations would purchase Sasol's fuel product and market it.<sup>56</sup> This insulated Sasol from marketing risks since it did not have to invest in a retail network,<sup>57</sup>

<sup>49</sup> Rustomjee's evidence in chief, transcript page 587, line 14, to page 588, line 13; page 592, line 13, to page 593, line 15; and page 596, line 12, to page 601, line 4.

<sup>50</sup> Transcript page 601, lines 12 to 17.

<sup>51</sup> Transcript page 593, lines 12 to 15.

<sup>52</sup> Rustomjee's witness statement, page 287B and following.

<sup>53</sup> It served industrial development purpose in providing an indigenous source of oil in the country and allowing it to respond to oil price changes; as well as a political one in the backdrop of international retaliation to South Africa's apartheid policy. Rustomjee's evidence in chief, page 566, line 4, to page 567, line 23; and page 586, line 20, to page 587, line 5.

<sup>54</sup> Pre-state ownership measures including a tariff protection, which was in effect a direct subsidy, continued when the State acquired Sasol. See Rustomjee's evidence in chief, page 568, line 14, to page 569, line 20.

<sup>55</sup> The 1947 Act which made for a 2 penny per gallon investment tariff incentive that was paid to liquid fuel producers and guaranteed Sasol's profitability. See Rustomjee's witness statement, paragraph 2, page 287B.

<sup>56</sup> Pursuant to the *Sasol Supply Agreement* (SSA) of 1955 (the Main Agreement) and which obligation continued until the 1990s. In 1998, Sasol gave notice that it would exit the SSA. Rustomjee accepted

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106.3 fuel levies that were used to fund Sasol 2 and Sasol 3.<sup>58</sup> The Sasol 2 levy fluctuated with the crude oil price so as to keep Sasol (2) revenues constant;<sup>59</sup>

106.4 a rail equivalent tariff which had the result of exempting Sasol from paying the higher transport costs resulting therefrom. The tariff had the further effect of raising the inland price and thus increased Sasol's returns;<sup>60</sup>

106.5 Sasol's utilisation of state funded infrastructure such as pipeline networks;<sup>61</sup>

106.6 minimal risk posed to investors when Sasol was privatised. For example, Rustumjee testified to the facts that the price at which it was privatized was significantly discounted; regulation guaranteed profitability of each segment of the value chain;<sup>62</sup> the actual risk exposure of private investors in respect of Sasol 2 and Sasol 3 was limited,<sup>63</sup> whilst the State, which was a minority shareholder,<sup>64</sup> bore the majority of the risk;<sup>65</sup>

106.7 the other oil companies having to buy Sasol's fuel and agreeing to shut back their own production when Sasol 3 came on stream; and

106.8 the State taking a decision to locate Natref inland at Sasolburg, and exempting Sasol from paying crude oil transport costs, which costs were borne by the motorists through a levy.<sup>66</sup>

107 The above facts demonstrate that the State's policy in respect of Sasol was a strategic one and not merely economic as suggested.<sup>67</sup>

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that he had no personal knowledge of the reasons for Sasol's decision, but gave a view of what he gathered from debates around the relevant time on the subject. Rustumjee's cross examination page 631, line 15, to page 632, line 19.

<sup>57</sup> Sasol's only retail exposure was limited to the so-called blue pump, a Sasol branded pump located at service station cites which were obliged to host Sasol's pump. Rustumjee's evidence in chief, page 601, line 22, to page 602, line 17.

<sup>58</sup> Rustumjee's evidence in chief, page 575, lines 5 to 12; and page 579, lines 8 to 12. In particular, Sasol 2 was funded with a mixture of export credits, the state oil fund (built up on 3.5c per litre levy), there was also a special levy levied against the fuel price and a direct parliamentary grant.

<sup>59</sup> Rustumjee's evidence in chief, page 590, lines 1 to 7.

<sup>60</sup> Rustumjee's evidence in chief, page 591, lines 9 to 16.

<sup>61</sup> Funded through the Strategic Fuel Fund.

<sup>62</sup> For example, the 3.5c per litre levy would be adjusted depending on the global crude oil prices; Rustumjee's evidence in chief, page 582, lines 4 to 16.

<sup>63</sup> Rustumjee's evidence in chief, page 582, lines 17 to 23.

<sup>64</sup> Rustumjee's evidence in chief, page 581, lines 1 to 22; and page 583, lines 4 to 12.

<sup>65</sup> Rustumjee's evidence in chief, page 583, line 4.

<sup>66</sup> Rustumjee's evidence in chief, page 584, lines 5 to 18.

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108 It was argued by SCI that this support, in money terms, has all been repaid by Sasol to the State. However the nature of the advantage, conferred upon Sasol and its subsidiaries through considerable and prolonged state support, is not one that can only be expressed in monetary terms, but is also one that has had the effect of creating SCI's dominance that has endured into the current market(s) under consideration. How that dominance came about is therefore significantly relevant to the enforcement of the Act.

### *Technology and innovation in purified propylene and polypropylene*

109 The evidence revealed that SCI's costs related to purified propylene production (disregarding the feedstock advantage) are broadly the same as other firms all over the world.

110 Sleep's evidence in chief was that Saudi Arabia was one of the lowest cost sources of purified propylene in the world.<sup>68</sup> SCI's costs of production are almost as low and therefore SCI in that sense is not "*unique*".<sup>69</sup>

111 In relation to polypropylene, all polypropylene producing firms use generic mature technology. Koster confirmed this fact and further confirmed that the purification process uses generic technology and that "*The purification step would not be very different in terms of cost*" between SCI and certain USA producers.<sup>70</sup> MacDougall referred to SCI's purification process as "*standard distillation technology*".<sup>71</sup>

112 Furthermore, SCI did not contend that its purified propylene and polypropylene businesses have lower costs because of any innovation.<sup>72</sup> The factual evidence confirmed that SCI has not engaged in any significant innovation in purified

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<sup>67</sup> Rustomjee, page 586, lines 12 to 16.

<sup>68</sup> Transcript, page 669, lines 19 to 22.

<sup>69</sup> See Sleep's presentation, Slide 7 (Exhibit 18); see also Sleep's evidence in chief, page 670, line 22, to page 671, line 3.

<sup>70</sup> Koster's cross examination, page 3837, line 20, to page 3838, line 13; for further confirmation of this fact see also Koster's response to Tribunal questions, page 3856, lines 2 to 7.

<sup>71</sup> MacDougall's cross examination, page 3479, line 7, to page 3480, line 1.

<sup>72</sup> In relation to propylene, see Founding Affidavit, paragraph 54, page 22A; Answering Affidavit, paragraph 87.2, pages 213A and 214A; Replying Affidavit, paragraph 89.3, page 316A; also see Commission's Request for Particulars at [29], specifically [29.2]; and SCI's Response at [79].

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propylene and polypropylene that has lowered its cost. That the technology is standard was also the evidence of MacDougall:

*"ADV WESLEY: ... this is the document SCI put up in response.*

*MR MACDOUGALL: Yes.*

*ADV WESLEY: To the questions that were asked these are its answers.*

*MR MACDOUGALL: Yes.*

*ADV WESLEY: So the answer to the question "Does Sasol Polymers contend that it has developed new technology for the production of purified propylene since it became a privately owned company that provides it with a significant cost advantage?" Is to say "Save to state that Sasol Polymers uses the best technology available, the particulars requested constitute information not strictly necessary to enable the applicant to prepare for trial." Second question in 49.2 "that if it does, Sasol Polymers is required to provide full detail in relation to that technology and the cost advantage it provides." You'll see the answer there that says "No, the respondent has not developed new technology for the production of purified propylene. The respondent uses fractional distillation a proven, mature and generic technology." Do you agree with that answer?*

*MR MACDOUGALL: Yes, I conceded that about five minutes ago.*<sup>73</sup>

113 MacDougall further conceded that what Sasol Polymers has done in respect of innovation had very little to do with its propylene and polypropylene businesses.<sup>74</sup>

*"ADV WESLEY: It is confirmation of what you said in chief and I am grateful I needed to put this on the record to see if you had a dispute with it. We are agreed then that there have been no – there's no – there is nothing that Sasol Polymers has done in relation to the purification of propylene that has given it some special cost advantage. It uses the same technology as everybody else.*

*MR MACDOUGALL: If we're talking about special cost advantage in terms of the cost of purification, I would say by all means, I concede that the special cost advantage that Sasol claims is in the feedstock cost.*

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<sup>73</sup> MacDougall's cross examination, pages 3482 and 3483.

<sup>74</sup> MacDougall's cross examination, page 3483, line 10, to page 3486, line 10.

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ADV WESLEY: Ja. And in relation to polypropylene and innovation you have said there that "Sasol developed new grades of propylene" is that what ... New grades of polypropylene.

ADV WESLEY: ... what you are referring to in the fourth sub bullet point on page 18?

MR MACDOUGALL: That is correct.

ADV WESLEY: As I read it there is nothing else on this slide that refers specifically to Sasol Polymers, am I correct?

MR MACDOUGALL: In terms of technology yes.

ADV WESLEY: The allegation was made that there has been no risk and innovation that is at paragraph 54 of the founding affidavit in relation to polypropylene. The answer, it is precisely the same allegation the answer is at paragraph 87.2 of the answering affidavit at 213A. And it is paragraph 87 it says and let me – have you got that before you?

ADV WESLEY: So you'll see it is the answer to 54. The first sentence of 87.1 is not relevant. The second sentence says that "the allegation that it" that means Sasol Polymer's "position in South Africa is not due to innovation or risk taking, but rather to past exclusive or special rights and in particular state support is denied." "87.2 While government support was a factor in the establishment of Sasol many years ago, state investment was fully repaid before Sasol commenced producing polypropylene. Sasol has been a privately owned and listed company for 30 years. During this time shareholders in the company have made significant investments entailing technology, market and political risk that has contributed to large efficiency improvements." And then it goes on about the levels of government support. The only technological improvement you've referred to in your slide relating to Sasol Polymers is the production of new grades of polypropylene.

MR MACDOUGALL: The only technological risk in the polypropylene business.

ADV WESLEY: Yes.

MR MACDOUGALL: Is the creation of a new grade of polypropylene.

ADV WESLEY: I have asked you to identify what innovations relate to polypropylene and you have said it is the single bullet point the co-polymer?

MR MACDOUGALL: Yes and the question you just said or the statement you just made to me is that Sasol Polymers has made no investment in technology other than the bullet point mentioned.

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ADV WESLEY: *In innovating.*

MR MACDOUGALL: *In terms of major innovations leading to entirely new polymers correct."*

114 Furthermore, insofar as MacDougall suggested that the development of new grades or polypropylene amounted to innovation in that business,<sup>75</sup> that evidence cannot be reconciled with Behrens' evidence that all of the grades of polypropylene produced by SCI could have been imported during the complaint period.<sup>76</sup> Behrens' testimony was as follows:

ADV WESLEY: *On the grades of imports you distinguish two things. I understand your evidence to, and Dr Padilla made this point to say everything that Sasol produces can be imported. That's correct?*

MR BEHRENS: *Correct.*<sup>77</sup>

115 Be that as it may, this clearly still would not justify SCI (allegedly) charging excessive prices for base products like homopolymer. Although MacDougall tried to avoid this question in cross-examination, his answer clearly showed that he did not seek to contend this.<sup>78</sup>

116 MacDougall further confirmed that Sasol leveraged its (protected) position in fuel to enter into the chemicals business. He said "*Sasol is establishing that it is using the Synfuels operation as a platform for growth. It is holding Synfuels neutral so that it is not making additional profit, but it is not losing anything and then that creates the opportunity to build a significant downstream petrochemical industry*".<sup>79</sup> He also said much the same in answer to a question from the Tribunal "*So the intention was to transfer feedstock into the petro chemical (sic) businesses, leaving the upstream entity neutral and then allow the downstream entity as much assistance or as much competitive advantage as possible to create the business*".<sup>80</sup>

<sup>75</sup> MacDougall's cross examination, page 3476, lines 10 to 14; page 3483, line 21, to page 3484, line 8; and page 3490, lines 6 to 9.

<sup>76</sup> Behrens' evidence in chief, page 3872, line 5, to page 3874, line 11; also see cross examination, page 3951, lines 9 to 18.

<sup>77</sup> Behrens' cross examination, page 3951, lines 9 to 12.

<sup>78</sup> MacDougall's cross examination, page 3490, line 19, to page 3491, line 3.

<sup>79</sup> MacDougall's cross examination, page 3301, line 19, to page 3302, line 1.

<sup>80</sup> Transcript, page 3602, line 11, to page 3603, line 11.

117 MacDougall furthermore acknowledged that "*Sasol Polymers has built on the foundation of the Sasol Group.*"<sup>81</sup> SCI was developed as part of what MacDougall candidly referred to as "*the Sasol empire*".<sup>82</sup>

118 Padilla suggested that if SCI could purchase feedstock at low prices then it was simply "*lucky*".<sup>83</sup> It achieved its position by "*a twist of fortune*" and could therefore "*penetrate the propylene and polypropylene markets in a corner of the world ....*"<sup>84</sup>

## Conclusion

119 We conclude that SCI's low cost of feedstock propylene arises from South Africa's natural resources and the response of Sasol historically to the need to produce liquid fuels. Sasol significantly benefitted from state support and its positions in the purified propylene and polypropylene markets are a consequence of that. It relies on the same standard technology as all other producers of these commodity goods. Its positions are not the result of risk taking and innovation on its part since it has not engaged in any significant innovation in the production of either purified propylene or polypropylene, but rather due to past exclusive or special rights, in particular very significant historical state support for a considerable period of time.

120 In the context of the particular facts of this case we conclude that SCI's special feedstock cost advantage must be taken into account at some stage in the section 8(a) enquiry. There is no justification for the elimination of the low cost of feedstock propylene from the evaluation, as contended for by Padilla. In the context of this case we therefore reject Padilla's attempt to seize upon the CAC's paragraph 43 in *Mittal* to contend that Sasol's feedstock cost advantage ought to be disregarded entirely in the excessive pricing assessment.

121 The problem with Padilla's approach is if one excludes SCI's special cost advantage from the first stage of the enquiry, regardless of its origin, one will never take that advantage into account. In other words, on Padilla's interpretation one must engage in a notional exercise and if the result of that equals no difference

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<sup>81</sup> MacDougall's cross examination, page 3478, lines 22 and 23.

<sup>82</sup> Transcript page 3277.

<sup>83</sup> Padilla's evidence in chief, page 1888, lines 18 to 20; also see cross examination, page 2087, lines 4 to 13.

<sup>84</sup> Padilla's cross examination, page 2158, lines 15 to 23.

between the notional economic value and the actual price, then the enquiry stops. This leads to an artificial result and is a misreading of the *Mittal* judgement when applied in its broader context. It is simply not practical that, if on a notional exercise you get to the end of stage one of the assessment and you do not find a difference that you cannot ever look at SCI's specific advantage. Such an approach would circumvent the specific facts of this case and produce an absurd outcome.

122 Next we in turn consider the economic experts' approaches to what has been labelled in our proceedings as the "Mittal 2" methods, i.e. the price-cost test and other potential methods used in the assessment of SCI's prices and the economic value of the products, as well as the so-called "Mittal 1" approach.

## PRICE-COST TEST

### Background

123 The CAC in *Mittal* held "*While the dominant firm's own incurred or likely costs will no doubt form an important evidential ingredient in such an enquiry, they will not in and of themselves provide a measure for arriving at economic value unless they can be shown to correspond to the competitive norm*".<sup>85</sup>

124 Having discussed the alternative methods that may be employed in an excessive pricing assessment, the CAC at paragraph 52 of the judgement further held that "*there may be no alternative to a detailed exercise in comparative costing. If expert evidence has been given concerning costing data, the necessary adjustments to be made for comparative purposes, the appropriate methodology needed to establish the opportunity cost of capital and allow for depreciation and replenishment of plant etc, then findings based on an evaluation of that evidence will have to be made*".<sup>86</sup>

125 What is thus clear from the CAC's guidance is that we have to evaluate the evidence concerning costing data in a given case if such data are available and have been advanced.

126 An analysis under section 8(a) can thus be performed by establishing the price under scrutiny and comparing it to the actual costs of the dominant firm (including a "normal"

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<sup>85</sup> Mittal (CAC), footnote 70.

<sup>86</sup> Mittal (CAC) at paragraph [52].



return) and then decide if those costs reflect economic value. Both Roberts and Padilla conducted a price-cost test based on inputs received from their respective industry and financial experts.

127 In the section that follows we thus consider SCI's domestic prices for purified propylene and polypropylene and SCI's actual costs of production and other costs to assess the markup of prices over costs during the relevant period.

128 We accept that there normally are complexities to performing a price-cost test and this case was certainly no exception. Whilst the expert witnesses agreed that in principle economic costs include variable costs, fixed costs, depreciation and a return on capital, they differed on what costs to include in each of these categories. Roberts and Wainer for the Commission selected approaches that had the effect of increasing as far as possible the price-cost markups and Padilla and Harman, on the other hand, selected approaches that chiselled away as far as possible at the price-cost markups.

129 The Commission for this analysis used SCI's average total costs as reported in its management accounts. The relevant costs were identified as including SCI's average total costs, including feedstock and purification costs plus estimates of a return on capital. Harman took the accounting costs and proposed a range of adjustments to derive the estimated economic costs.<sup>87</sup> The Commission, however, disputed the appropriateness of almost all of Harman's proposed adjustments.

130 The major differences between the approaches of the Commission's and SCI's experts related to: (i) the treatment of feedstock propylene costs, as already highlighted above; (ii) the valuation of SCI's capital assets; (iii) the level of the capital reward / return on capital; (iv) the allocation of group costs; and (v) the allocation of fixed costs between domestic and export sales.

131 Harman's initial analysis in his First Report describes his base case.<sup>88</sup> In his Second Report he introduced further adjustments that he said served as a

<sup>87</sup> Transcript, Harman, pages 2465 to 2671. Also see transcript, Padilla, pages 1897 and 1898.

<sup>88</sup> GH2, paragraph 2.20, page 1707B.

sensitivity analysis to his base case in the form of alternative assumptions.<sup>89</sup> In relation to both purified propylene and polypropylene, these further adjustments included: (i) calculating the replacement cost of SCI's assets based on insurance values; (ii) the use of an inception weighted average cost of capital (WACC) for the return on capital; (iii) including a hurdle rate in the WACC calculation; and (iv) the addition of group costs.

132 Harman determined the significance of each of these factors and their impact on Roberts' calculations as per his Second Report (SR2). For purified propylene the significance of each individual adjustment on the results appears from Harman's Third Report (GH3), Table 3.4;<sup>90</sup> his slide presentation - Slides 31 and 32;<sup>91</sup> as well as SCI's submission of 19 February 2014<sup>92</sup>. For polypropylene the significance of each adjustment appears from GH3, Table 3.6;<sup>93</sup> Slides 33 and 34 of his presentation; and SCI's submissions of 19 February 2014, 10 April 2014 and 30 April 2014.

133 We note that in Harman's slide presentation (and consequently in SCI's later submissions at the Tribunal's request) he combined all of his alternative assumptions by cost category, showing their individual effect on the overall analysis in percentage points. These percentage points are generally negative numbers as they are reductions computed off the base case, although some are positive numbers, as shown in the tables below.

134 We shall next evaluate the various adjustments made by both sides' experts and conclude on the appropriate price-cost test results for both purified propylene and polypropylene. However, we note that there was no need for us to take a definitive view on each and every disputed issue between the experts since certain assumptions do not alter our ultimate findings. Where we have considered a range of possible figures/adjustments under various plausible assumptions / scenarios, we clearly indicate the range considered.

<sup>89</sup> GH2, paragraphs 2.21 to 2.22, page 1707B.

<sup>90</sup> GH3, Table 3.4, page 2031B.

<sup>91</sup> Exhibit 47.

<sup>92</sup> We note that we after the hearing requested SCI to indicate the significance of each of Harman's individual adjustment on the price-cost test results separately for the Tier 1 and Tier 2 purified propylene prices charged to Safripol, as explained below.

<sup>93</sup> GH3, Table 3.6, page 2036B.

135 We note that the experts agreed to some corrections to the price-cost test results in Roberts' Second Report (SR2).<sup>94</sup> There is no need for us to elaborate on these agreed corrections to the calculations.

## **Disputed calculations**

### **Presentation of prices**

136 The first step in the price-cost analysis is to determine the relevant domestic prices for purified propylene and polypropylene to consider. We discuss the disputes in this regard below.

### **Purified propylene: two separate prices or one average price**

137 The first dispute between the experts related to the presentation of the purified propylene prices charged to Safripol during the complaint period. We note that the relevant prices alleged to be excessive related to SCI's domestic purified propylene sales, that is, its sales of propylene for the production of polypropylene. The issue was that SCI charged Safripol two different prices during the complaint period, known as the (i) "Tier 1" price; and (ii) "Tier 2" price. The question was whether these two different prices should be separately considered in the excessive pricing assessment, as the Commission contended,<sup>95</sup> or whether their weighted average should be considered, as used by Harman over the period of analysis.<sup>96</sup>

138 From the outset it is important to note that it was common cause that the Tier 2 price charged to Safripol was significantly higher than the Tier 1 price. This was confirmed by both Padilla and Harman.<sup>97</sup>

139 To contextualise this dispute we provide some background regarding these prices during the relevant period:

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<sup>94</sup> The calculations after the agreed corrections are reflected in Exhibit 28. Harman accounted for these corrections separately in his Slide 31 for purified propylene and Slide 33 for polypropylene and the corrections were also reflected in the Commission's and SCI's later submissions.

<sup>95</sup> SR1, paragraph 132, page 73B; paragraphs 353 to 358, pages 120B to 122B. SR2, paragraphs 167 to 169, pages 225B and 226B.

<sup>96</sup> JP1, paragraphs 8.44 to 8.66, pages 795B to 800B; GH2, paragraphs 4.15 and 4.20, pages 1740B and 1742B. Also see Padilla's presentation, Slide 37 (Exhibit 40).

<sup>97</sup> JP1, paragraph 8.52, page 796B. GH2, Table 4.1, page 1742B.

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139.1 The Tier 1 and Tier 2 prices were imposed by an amendment in 1999 to the 1994 SCI-Safripol Supply Agreement. The 2006<sup>98</sup> amendment provided that the Tier 1 price was payable on the first 55 000 tons of purified propylene calculated on a monthly basis. For calculation purposes SCI spread this volume over the year, in other words the total volume was divided by 12. In practice this meant that SCI demanded that Safripol's monthly bill comprises a portion of its supplies for the month at the lower Tier 1 price and the balance at the significantly higher Tier 2 price.

140 The Commission contended that it is appropriate to conduct the price-cost analysis separately for these two prices since the Tribunal in principle could find that the (higher) Tier 2 price charged to Safripol was excessive but not the (lower) Tier 1 price.

141 The Commission further submitted that Harman's weighting distorts the computation by allocating greater weight to the markups calculated when petrochemical prices are high (largely due to the oil price).

142 As stated above, Harman contended for the use of a weighted average of the two prices. He tried to justify his approach by saying that a separate comparison of the two prices is misleading because Safripol paid both the Tier 1 and Tier 2 prices and that the commercial reality was that Safripol paid an average price, equal to the weighted average of the Tier 1 and Tier 2 price for all its purified propylene.<sup>99</sup> SCI further argued that the Tribunal lacks costs data relating to each of the Tier 1 and Tier 2 prices separately.

143 On the issue of the separate Tier 1 and Tier 2 prices charged to Safripol, we conclude that a finding of excessive prices could indeed in principle be made with regards to the (higher) Tier 2 price separately from the (lower) Tier 1 price since these prices - for the same product - were significantly different during the complaint period. Safripol in fact did pay two different prices; the fixed volume supplied at the lower Tier 1 price was simply, at the insistence of SCI, spread over an entire year. Thus SCI refused to first supply Safripol with all the stipulated

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<sup>98</sup> According to Padilla, this formalised the practice that had been in place since 1998.

<sup>99</sup> See GH3, paragraph 3.21, pages 2020B and 2021B.

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volumes of purified propylene at the lower Tier 1 price before supplying volumes at the higher Tier 2 price. We have found no justification for this practice of SCI.

144 The evidence was furthermore that Safripol's decisions to buy were made on the Tier 2 prices independently of the Tier 1 prices.<sup>100</sup> Safripol bought all of the contractually fixed volumes of purified propylene at the lower Tier 1 price, but did not buy all the volume it could at the higher Tier 2 price. This was because it also purchased limited volumes of purified propylene from Sapref, at prices [...] the Tier 2 price [...] with the transport from the coast) and then purchased additional volumes from SCI under the [...] Tier 2 price.<sup>101</sup>

145 Regarding the available costs data relating to the two prices (see paragraph 142 above), we note that the Commission compared the Tier 2 prices to SCI's average costs. SCI was well aware of the Commission's approach to this issue and did not advance any cogent evidence at the hearing to show that the costs associated with the Tier 2 prices were significantly dissimilar to the average costs as used by the Commission in its analysis.

146 Although SCI alleged that the price differentiation between the two tiers reflects higher costs associated with the production of the additional purified propylene volumes, including a higher feedstock price from Synfuels, higher purification and operating costs due to the dilute nature of the relevant condensate stream and necessary investment in PPU3,<sup>102</sup> these allegations did not accord with the way in which the propylene pricing was negotiated with Polifin. Nor did it accord with the interpretation of MacDougall who explained it simply as a 'take-it-or-leave-it' offer, which departed from the methodology of basing prices on some measure of Sasol's actual alternative. MacDougall stated "*In these negotiations Sasol Synfuels departed from the elements of cost as laid out in the 1994 Sasol Synfuels agreement and made an offer on a take-it-or-leave-it basis. Sasol Synfuels established a pricing model by taking a snapshot of the position at the time, ... This resulted in the formula offered to Polifin. I was aware that the price proposed by Sasol Synfuels was appreciably higher than that of the 1994 Sasol Synfuels agreement, but Polifin*

<sup>100</sup> Schoch, transcript, pages 341 and 342; see also pages 378 and 379.

<sup>101</sup> Schoch, transcript, pages 341 and 342; pages 357 to 360; pages 362 and 363; as well as pages 378 and 379.

<sup>102</sup> SCI, Answering Affidavit, paragraph 62.2.

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*had to concede that Sasol Synfuels had no obligation to replicate the philosophy of offering product at opportunity value to a separate listed company with multiple shareholders. Polifin accepted the offer and signed the second feedstock supply agreement ('1999 Sasol Synfuels agreement') (item 39 of SCI's discovery)".<sup>103</sup>*

147 Furthermore, although SCI alleged that the costs of producing the "Tier 1" and "Tier 2" purified propylene would be different Harman did not provide separate cost figures in his calculations presented to the Tribunal. He confirmed that he only considered average prices and therefore average costs:

*"ADV TRENGOVE: Because you work on average prices though you don't need to make the cost distinction?"*

*MR HARMAN: No, I think I am internally consistent."<sup>104</sup>*

148 We concur with the Commission that Harman's use of the average of the two purified propylene prices charged to Safripol is inappropriate. The Tier 2 price was a real price. The commercial reality at the time as borne out in the supply agreements is straightforward, namely Safripol first paid the Tier 1 price for a fixed volume of purified propylene, spread over 12 months at the insistence of SCI, and then paid a higher price for any additional volumes, up to a certain maximum supply volume. The fact that a significantly higher price i.e. the Tier 2 price (compared to the Tier 1 price) was charged to Safripol cannot be disputed. We shall thus in the price-cost assessment consider each of the two different purified propylene prices charged to Safripol. This is in line with the CAC's approach of identifying the actual prices that are the subject of the excessive pricing evaluation and is also conceptually correct.

149 However, we note that even if we were to follow Harman's approach of the average of the Tier 1 and Tier 2 prices, which we regard as inappropriate, we would still come to the same ultimate conclusion. We show the results for all three of these scenario's, i.e. for the Tier 1 price, the Tier 2 price and the average of Tier 1 and Tier 2 prices, in Tables 1a and 1b below.

<sup>103</sup> McDougall's witness statement, paragraphs 15 and 16, pages 614B and 615B. Also see transcript page 3359, line 9, to page 3360, line 16.

<sup>104</sup> Transcript page 2539, lines 13 to 15.

## Simple versus weighted average

### *Purified propylene*

150 For purified propylene Roberts summarised his multi-year analysis into a single percentage and his average is based on the average markup in each year, i.e. it is a simple average. Harman, on the other hand, calculated a percentage based on the total costs and revenues over the period, i.e. a weighted average. More specifically, Harman weighted the price-cost markups by nominal revenue and costs and argued that one should “*give prominence to bigger years*”.<sup>105</sup> He gave the following rationale for his approach: “*My approach is very rational, because what am I trying to do? Remember if you go back to basics, ... We’re trying to work if I made an investment of 100 I’m trying to determine over the life of that asset do I earn excessive revenues over costs.*”<sup>106</sup>

151 The Commission argued that the analysis required under section 8(a) is not one concerned with excessive revenues over the life of an asset but rather of examining prices relative to costs for a particular shorter time period. For this purpose, each year should be treated equally.

152 The Commission’s simple average basis increases the markups and SCI’s weighted average basis produces lower markups. This difference in arithmetic approach creates a difference of roughly -[2 - 3]% to the markups for purified propylene.<sup>107</sup>

153 We conclude that weighting the years to compute the average price-cost margin over the period is inappropriate since each year should be attributed equal weight in the calculations of markup over economic value. The markups by year should not be weighted by the revenue for each year as this artificially places more weight on years with higher costs of propylene, for instance, when petrochemical prices are higher than in other years due to the oil price.

<sup>105</sup> Harman’s evidence in chief, page 2563, lines 4 to 15.

<sup>106</sup> Harman’s cross examination, page 2836, lines 2 to 6.

<sup>107</sup> In terms of Harman’s/SCI’s calculations it lowers the markups with 2.3% for Tier 1 and 2.9% for Tier 2. See SCI’s submission of 19 February 2014, Table on page 1 (with tax effect).

Furthermore, the CAC in *Mittal* is clear that actual prices and costs should be assessed and not revenues.<sup>108</sup> We therefore reject Harman's proposed adjustment.

### *Polypropylene*

154 In respect of polypropylene, we note that the Commission in all of its analyses adopted an integrated approach, i.e. assuming that the low feedstock propylene costs flow through to polypropylene. *Inter alia* Koster and Padilla acknowledged that SCI is an integrated entity.<sup>109</sup>

155 The Commission contended that the appropriate domestic price for polypropylene is the average ex-works price across all grades and customers after taking into account silo and/or settlement discounts, but excluding special rebates. It presented its prices as an annual volume weighted average.

156 The Commission agreed with Harman that annual polypropylene prices should be calculated from monthly prices with volume weighting such that small sales volumes at a higher price will not be given disproportionate weight in the average calculation. The Commission thus accepted Harman's small adjustment of approximately -[<1]% to the price-cost markup of polypropylene (see Table 1a below).

157 The Commission, however, did not accept Harman's further adjustment of approximately -[<1]%^<sup>110</sup> related to the use of weighted price-cost markups over the period of the analysis. We have already dealt with this issue above and find that each year should have equal weight in the calculations of the markup over economic value.

158 With regards to the domestic polypropylene prices there were two further points of dispute between the Commission and SCI and we discuss these below.

### **Delivered prices for polypropylene**

159 The Commission argued that the appropriate local price is an ex-works price i.e. net of distribution. This is compared with the cost, which excludes transport costs.

<sup>108</sup> See, for example, paragraph [52] of the CAC's judgement in *Mittal*.

<sup>109</sup> Koster's cross examination, page 3832, lines 11 to 21. Transcript, Padilla, page 2258.

<sup>110</sup> See SCI's submissions of 10 April 2014 and 19 February 2014, Table on page 3 (with tax effect).



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According to the Commission, this allows for a consistent polypropylene price to be used across comparators as it is then comparable with an ex-works export price.

160 An adjustment to include delivery would amount to a reduction of the polypropylene markups by approximately [1 - 2.5]%.<sup>111</sup> Given the relative size of this adjustment, we have left this issue open, i.e. we used a range in our calculations since it does not affect our ultimate conclusion (see Table 1b below).

### Inclusion/exclusion of the CEIP rebate

161 The Commission argued that it would be inappropriate to include special rebated prices such as under SCI's *Customer Export Incentive Programme* (CEIP) since these are indirect export prices subject to restrictions on the local resale to prevent the undermining of local prices. The CEIP scheme was undertaken by SCI in order to boost sales by accommodating the plastic convertors who produce for the export market. In other words, the customer was entitled to a discount (a "special" price) on polypropylene under that program only if that polypropylene was used for the manufacture of export goods only (i.e. a "special" category of sales).

162 Harman adopted the average local price net of the CEIP rebate on the basis that these are reflected in the financial statements.<sup>112</sup> The effect of including these CEIP rebates in the calculations is that it lowers the price-cost markups by approximately [3 - 4]%.<sup>113</sup>

163 SCI argued that conceptually one may favour the Commission's approach to exclude these rebates but then one would have to exclude the CEIP sales from the volumes used, i.e. one must calculate what the domestic volume would have been without them in order to properly cost those domestic sales. This the Commission had not done.

164 Given that these rebates were in fact provided to local polypropylene customers, regardless of their intent, and further that the Commission did not exclude these sales from the polypropylene sales volumes used, we find that it would be

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<sup>111</sup> SCI's submissions of 10 April 2014 and of 19 February 2014, Table on page 3 (with tax effect).

<sup>112</sup> GH3, paragraph 3.21, 3<sup>rd</sup> bullet, page 24.

<sup>113</sup> SCI's submissions of 10 April 2014 and 19 February 2014, Table on page 3 (with tax effect).

inappropriate to not include the rebates in the calculations. We therefore lowered Roberts' calculated price-cost markups by the appropriate percentage.

### Period over which prices are measured

165 It was a common cause fact that the petrochemicals industry goes through cycles and that one should in the price-cost analysis consider one full cycle that covers the complaint period. The industry experts further agreed that the relevant cycles have historically been 6 to 8 years.<sup>114</sup> The industry experts also agreed that the complaint period represents the peak of the relevant industry cycle and therefore is not representative of the full petrochemical cycle and of industry profitability. This means that any longer period than the 2004 to 2007 complaint period reduces the price-cost test results in SCI's favour.

166 However, as already stated above, there was a dispute between the industry experts as to where precisely the relevant industry cycle began and ended.

167 The Commission contended that the full cycle relating to the complaint period was seven years covering the period FY2002 to FY2008, i.e. from July 2001 to June 2008. Sleep (industry expert for the Commission) argued that the complete cycle covering the complaint period would be from mid-2001 to mid-2008 because these two points cover a peak and a trough. Sleep explained "*... my view is that 2001 to 2009 would probably include two troughs and therefore it was too long. You can't have two troughs in a cycle.*"<sup>115</sup>

168 Koster (industry expert for SCI) in his report indicated that the full cycle covers the period 2001 to 2009. He said "*The previous peak was seen over the 2004-2007 period, with the full cycle covering 2001 to 2009.*"<sup>116</sup> In his slide presentation he however indicated that the full cycle was from mid-2001 to mid-2009.<sup>117</sup> In cross examination he then said that he did not intend to indicate this and intended to include 2001 and 2009 fully.<sup>118</sup> However, he conceded that he could not accurately

<sup>114</sup> Economic Expert Minutes, page 2316B; Sleep's evidence in chief, page 725, lines 22 and 23; and Koster's examination in chief, page 3660, lines 18 to 22.

<sup>115</sup> Sleep's evidence in chief, page 740, line 10, to page 741, line 5; also see cross examination, page 821, lines 8 and 9.

<sup>116</sup> RK1, paragraph 6.25, page 2129B.

<sup>117</sup> Exhibit 59, Slide 8.

<sup>118</sup> Koster's cross examination, page 3732, lines 16 to 19.

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determine when in 2001 or 2009 the cycles turned, because he only had annual data; he furthermore confirmed that he only put up Slide 8 and no monthly data.<sup>119</sup>

169 Harman in his First Report extended the period in his price-cost analysis on the basis that the full profitability cycle is the period FY2001 to 2008.<sup>120</sup> However, in his Second and Third Reports he considered the financial years 2001 to 2009 *"primarily because CMAI had said that they thought the cycle lasted 2001 to 2009"*.<sup>121</sup>

170 On a definition of the chemical cycle that includes FY2001, the results of the price-cost test for purified propylene would be lowered by [1 - 2]% (Tier 1) and [2 - 3] (Tier 2)<sup>122</sup> and that of polypropylene would be lowered by [ $<1$ ]% (see Tables 1b and 2b below).<sup>123</sup> We note that the Commission correctly pointed out that the choice of the period over which to perform the analysis affects the calculation of all of the other proposed adjustments and therefore is an important consideration.<sup>124</sup>

171 The Commission argued that Harman's tracking of the analysis further back into 2001 is inappropriate for a number of reasons. First, if the end of the period is kept at June 2008 then the analysis covers more than one trough but only one peak. Second, even if the end date were to be moved back too, 2001 is an unusual year because SCI had a fire at its operations in that year; as a result of this fire SCI closed its plant for a considerable period of time and imported product. This event distorts the analysis. Third, the Commission's analysis is already conservative because it captures the second half of 2001 and therefore includes some months affected by the closedown of the plant due to the fire and the higher costs from importing rather than producing material during this time.

172 Harman conceded that *"... maybe you have to adjust for the fire that occurred in 2001"*.<sup>125</sup> He further acknowledged the *"... loss of profits associated with a fire that occurred in 2001"*.<sup>126</sup>

<sup>119</sup> Koster's cross examination, page 3826, line 8; and page 3827, lines 1 to 5.

<sup>120</sup> GH1, paragraph 2.19, page 1285B; Harman's evidence in chief, page 2543.

<sup>121</sup> Transcript, Harman, page 2543. Also see GH3, paragraph 3.21, page 2021B.

<sup>122</sup> SCI's submission of 19 February 2014, Table on page 1 (with tax effect).

<sup>123</sup> SCI's submission of 19 February 2014, Table on page 3 (with tax effect).

<sup>124</sup> See Commission's email of 09 May 2014.

<sup>125</sup> Transcript, Harman, page 2543.

173 We concur with the Commission that the inclusion of the whole of 2001 is incorrect *inter alia* because it distorts the price-cost analysis. Furthermore, one cannot have two troughs in one cycle. Harman's proposed adjustment of the period is therefore inappropriate and we shall not consider this in our calculations (see Tables 1b and 2b below).

#### Use of annuity-based approach for capital reward

174 Since Roberts did not dispute that calculating the capital reward on an annuity basis could be done,<sup>127</sup> we shall proceed on this basis since this was the approach advanced by SCI. Calculating the capital reward on an annuity basis implies a higher markup for both purified propylene and polypropylene as indicated in Tables 1b and 2b below.

#### Cost of feedstock propylene

##### Background

175 As stated above, the difference in the experts' approaches to feedstock was the most significant dispute between the parties. The central question was how feedstock propylene ought to be valued.

176 As also stated above, it was common cause that SCI has a comparative advantage over its competitors internationally in the price of the feedstock propylene that it receives in-house from Synfuels.<sup>128</sup> The extent of this feedstock advantage was estimated by the Commission at about 30%, i.e. SCI's cost of feedstock is approximately 30% below that of firms in Europe and the USA.

177 It was furthermore common cause that the major cost in the production of purified propylene is the cost of feedstock propylene and the major cost in the production of polypropylene is the cost of purified propylene.

178 We concluded above that in the context of the particular facts of this case SCI's feedstock advantage should be considered in the overall excessive pricing assessment (see paragraphs 119 and 120 above).

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<sup>126</sup> GH2, paragraph 4.52, page 1756B.

<sup>127</sup> Transcript, Roberts, pages 1062 and 1063.

<sup>128</sup> Transcript, *inter alia* Roberts, page 1009.

179 We next explain how feedstock propylene is valued.

***Value of feedstock propylene***

180 It was common cause that feedstock propylene in the hands of a refinery, as a by-product, is valued at the refinery's opportunity cost, or alternative uses, referred to in the industry as its 'fuel alternative value' or FAV. The FAV therefore determines the cost of the feedstock propylene.

181 Synfuels' processes mean that its feedstock propylene becomes part of petrol as a core input into its CatPoly process. According to the Commission's findings, all the propylene produced by Synfuels was converted into petrol blend components through CatPoly units until 1989 when Sasol invested in purification units and a polypropylene plant. Thus, in the hands of Synfuels, propylene is a feedstock with alternative values, as it can be converted in the CatPoly plants to liquid fuels.

182 The FAV for a specific refinery at a given time depends on the costs of making the fuel in question (from alkylate for petrol through to fuel gas) and the price that can be achieved for the sale of that fuel. FAV is therefore affected by the actual prices that would be earned for the fuel, the costs of making the fuel, the quality of the fuel components that will be made and the effect of blending the components into the fuel pool. Thus, the decision to extract and purify propylene depends on the relative price of fuel(s) and polymer-grade propylene. Sleep explained "*So, we have a problem in that we don't know what the ... price of the by-products feedstock propylene is and therefore we use alternate values in order to calculate what it would be worth. Those alternate values are calculated by looking at what it can be used for, what is the value or price of that product that it can be used to be made and what is the cost of the conversion and this is a standard methodology used in the industry for working out the value of refinery or feedstock propylene.*"<sup>129</sup>

183 Koster and Sleep agreed that the FAV will differ depending on the alternatives in a particular market and also that pricing will be related to the relevant value.<sup>130</sup> Thus

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<sup>129</sup> Sleep's evidence in chief, page 660, line 22, to page 661, line 6.

<sup>130</sup> Sleep's evidence in chief, page 660, line 22, to page 663, line 11.

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there is no single FAV for feedstock propylene since the FAV will differ between refineries<sup>131</sup> and even within refineries over time.<sup>132</sup>

184 The above means that a seller of feedstock will not sell that feedstock at a price below its FAV because if the price falls below its FAV, it would switch its feedstock to its fuel pool.

### ***Feedstock prices paid by SCI and proposed adjustments***

185 Although there was much debate between the experts about the proper computation of FAV, there was very little dispute over the feedstock propylene prices actually charged by Synfuels to SCI during the relevant period. The feedstock costs are given by Sasol Polymers in its propylene income statements.<sup>133</sup>

186 Although the Commission considered the actual feedstock propylene prices paid by SCI during the relevant period, it contended that the actual prices paid by SCI for feedstock (based on the supply agreements) did not reflect, and was higher than, the "normal cost" for feedstock propylene and thus should be adjusted downwards when determining the economic value of both purified propylene and polypropylene, as explained in more detail below. Put differently, the Commission argued that Synfuels' "true" FAV was significantly lower<sup>134</sup> than the price actually charged to SCI during the complaint period and over most of the relevant cycle.

187 Padilla, on the other hand, contended that the actual propylene feedstock prices charged to SCI should be adjusted upwards to reflect a "market" price. SCI, more specifically, suggested that the feedstock price should be adjusted upwards to reflect either the highest price Synfuels could charge or, at the very least, the lowest price it could charge, which would be based on the customers' next best alternative, but is in fact calculated as a notional "South African Refinery floor" price of feedstock.

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<sup>131</sup> Koster's cross examination, page 3809, lines 2 to 8.

<sup>132</sup> Sleep's evidence in chief, page 660, line 22, to page 663, line 11.

<sup>133</sup> SCI discovery item 274.

<sup>134</sup> According to the Commission's calculations the price that Synfuels charged SCI for feedstock propylene during the relevant period was approximately 9% higher than Synfuels' "true" FAV. See *inter alia* Commission's Heads of Argument, paragraph 4.4, page 7.

188 We next provide details of Synfuels' pricing of its feedstock propylene during the complaint period. We note that Polifin/SCI historically paid different prices for feedstock propylene, initially calculated within Sasol separately for each feedstock stream. There were three main feedstock propylene supply contracts first to Polifin and later to SCI, namely:

*First Agreement: 1994*

188.1 The first agreement was the 1994 agreement for feedstock supplied from Sasol Polymers to Polifin, sourced from the Synfuels Condensate 3 feedstock stream. This stream contains 65% propylene. The agreed pricing was at the FAV of the propylene stream as set out in the initial supply agreement. The FAV for the Condensate 3 stream was based on the conversion of the stream into a mixture of petrol, diesel and LPG through Synfuels' CatPoly process. The reasoning for this form of pricing was that if Synfuels did not sell this feedstock stream to Polifin at the time, then it would incur costs in converting the propylene stream into fuel products.<sup>135</sup> Thus the FAV of the stream was a function of the price that Synfuels would receive for the fuel less the costs that it would incur in converting the propylene feedstock stream into fuel.

*Second agreement: 1999*

188.2 The second agreement was the 1999 agreement for feedstock supplied to Polifin, sourced from Synfuels' Condensate 2 stream, containing 18% propylene coming from the Sasol Three plant. We note that the Commission alleged that the price paid was not related to FAV and was "appreciably" higher than the FAV of the stream, considering *inter alia* that the stream was more dilute than Condensate 3.<sup>136</sup>

188.3 In 2002, Sasol agreed to supply an additional 245 000 tpa of feedstock propylene to SCI for purification commencing on 01 July 2002. At this point the existing agreements for supplies from Condensate 3 and Condensate 2, agreed in 1994 and 1999 respectively, were to remain in force.

<sup>135</sup> Commission's discovery, item 15.

<sup>136</sup> SR1, paragraph 323, page 113B.

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### *Third agreement: 2003*

188.4 The third agreement was the so-called '2003 One Tier' pricing agreement for the combined streams plus a third tranche principally for the use of Sasol Solvents. The price of feedstock under the new agreement, priced according to one formula, purports to be set at Synfuels' FAV.

188.5 This agreement from 2003 governed the supply by Synfuels of all feedstock propylene to SCI. Thus the actual price paid by SCI during the complaint period (i.e. 2004 to 2007) was the price in terms of the 2003 One Tier Agreement.

189 We note that the above agreement applied from July 2003 although it was only signed in March 2007.<sup>137</sup> According to MacDougall *"The reason for the delay in signing was SP's [Sasol Polymers'] reluctance to sign an agreement which in practice yielded a higher price than the weighted average of the earlier agreements."*<sup>138</sup>

190 However, the abovementioned propylene feedstock pricing agreements yield different FAVs.<sup>139</sup> The Commission argued that while both the 1994 and 2003 agreements purport to set the price at Synfuels' FAV, the price for feedstock propylene in the 1994 agreement was approximately 15% lower than the 2003 agreement over the period FY02-FY08. Moreover, the Commission argued that both the second and third of the abovementioned agreements yielded higher prices than the 1994 supply agreement with Polifin, and deviated from Sasol's own FAV pricing policy.

191 According to the Commission, Synfuels did not properly take account of the factors that determine FAV in its 1999 and 2003 feedstock agreements with SCI, with the result that the price under those agreements was materially higher than the "true" FAV. The Commission alleged that the actual reasons why the 2003 agreement did not properly reflect FAV were that it did not correctly measure the price of fuel that would otherwise be made from the feedstock and the costs to make and supply

<sup>137</sup> SCI discovery, Item 173. Also see MacDougall's witness statement, paragraph 18.

<sup>138</sup> MacDougall's witness statement, paragraph 18.

<sup>139</sup> See *inter alia* SR1 paragraph 328, pages 114B and 115B.



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fuel, taking into account the quality of the fuel made under the CatPoly process. The Commission contended that at the very least three adjustments are required for the 2003 agreement to correctly reflect the FAV of the feedstock propylene purchased by SCI as an input for purified propylene and polypropylene: (i) the correct calculation of the variable costs that would be incurred if the feedstock propylene was instead to be used to manufacture fuel (in the CatPoly); (ii) taking into account tank farm handling fees and marketing fees for petrol, diesel and LPG; and (iii) the inclusion of the pipeline cost and blending fee for diesel.

192 MacDougall conceded that insofar as the differences between the 2003 and the 1994 agreements were not justified, then the 2003 agreement would contain a premium.<sup>140</sup> Furthermore, although MacDougall argued that the 1994 FAV was artificially low because Sasol was obliged to continue charging it because of the JV Shareholding Calculation, he conceded that the 1994 agreement was kept in place for four years after the JV ended.<sup>141</sup>

193 With regards to the feedstock price under the 1999 agreement for Condensate 2, we find that it does not reflect Synfuels' FAV. This price was not only appreciably higher than the 1994 Condensate 3 price,<sup>142</sup> but also higher than the 2003 price. MacDougall could not give a clear and plausible explanation for this price being higher than those in the other agreements.<sup>143</sup> Furthermore, it was not a negotiated price, but presented on a "take it or leave it" basis<sup>144</sup> with the cost build up hidden from Polifin. It was also not based on fuel prices in South Africa, of Synfuels, but on quoted international fuel prices in Singapore.<sup>145</sup>

### **Commission's approach**

194 We next explain Roberts' various calculations relating to Synfuels' "true" FAV of its feedstock propylene.

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<sup>140</sup> MacDougall's cross examination, page 3539, line 21, to page 3540, line 2.

<sup>141</sup> MacDougall's cross examination, page 3260, line 22, to page 3261, line 15. The Polifin JV ended in 1999 and the Condensate 3 agreement continued to be used until 2003.

<sup>142</sup> MacDougall's cross examination, page 3367, lines 8 to 10.

<sup>143</sup> MacDougall's cross examination, page 3383, line 8, to page 3389, line 1.

<sup>144</sup> MacDougall's cross examination, page 3360, lines 13 to 16.

<sup>145</sup> See Roberts' cross examination, page 1287; and MacDougall's cross examination, page 3260, lines 14 to 21.

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195 Feedstock costs are given by Sasol Polymers in their propylene income statements<sup>146</sup> and purification costs are given in Sasol Polymers' management accounts.<sup>147</sup>

196 Roberts submitted that the feedstock price that should be taken into account in the costs of purified propylene should reflect the actual alternatives. The Commission took this as the terms of the 1994 agreement, with an adjustment as a working assumption, namely to add R100/t, in 1995/1996 money, increased each year for inflation.<sup>148</sup>

197 For the polypropylene price-cost test Roberts presented his results as follows:

197.1 In his First Report (SR1) Roberts presented his results based on two estimates of the price of feedstock propylene.<sup>149</sup>

197.1.1 For the polypropylene assessment he used the direct raw material costs as reported under variable costs in the polypropylene income statements of which purified propylene prices form the main portion of variable costs (Roberts' "unadjusted basis").<sup>150</sup>

197.1.2 Roberts further considered the various supply agreements which had an FAV base and argued that the terms of the 1994 agreement were the appropriate ones to use. The second value therefore was a notional value that assumes that the propylene feedstock was priced in accordance with the formula in the 1994 Supply Agreement. This represented a downward adjustment compared with the price actually charged by Synfuels (Roberts' "adjusted basis"). We note that Roberts labelled the 1994 Supply Agreement cost, "Sasol FAV" in SR2. More specifically, in this downwards adjustment the Commission used as its cost of feedstock the 1994 feedstock contract prices + R100/t adjustment

<sup>146</sup> SCI discovery item 274.

<sup>147</sup> SCI discovery item 322.

<sup>148</sup> SR1 paragraph 386, page 129B.

<sup>149</sup> SR1 paragraphs 490 and 491, page 157B.

<sup>150</sup> SR1 paragraph 490, page 157B.

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(inflated).<sup>151</sup> The additional R100 (inflated) was included to deal with the alleged "*missing depreciation*" and was what had been "*repeatedly offered*" to the then Polifin for an additional tranche.<sup>152</sup>

197.1.3 To both the Commission's abovementioned adjusted and unadjusted raw material costs it added other applicable polypropylene costs from the income statements - process material costs, packaging material costs, utilities, stock movements, delivery expenses and fixed costs after bonuses to get to average total cost figures.<sup>153</sup>

### *Roberts' additional calculations*

198 In his Second Report (SR2), Roberts then developed two additional calculations of the FAV, which both lead to a material downward adjustment to the 1994 Supply Agreement cost. The first FAV estimate reflected the discount that Sasol offered to the Other Oil Companies ("OOC"). The second FAV estimate reflected the price that Sasol obtained from coastal sales (in Durban, assuming the price is at the coastal import parity price and that Sasol uses rail transport to the coast) ("Coastal").<sup>154</sup>

199 However, we shall not consider Roberts' OOC or Coastal calculations any further in our analysis since there was no convincing case made out by the Commission for these FAV estimates to be used.

### *SCI's approach*

200 SCI also gave its results based on various feedstock assumptions.

### *Reported figures in financial statements*

201 The first basis used was the actual feedstock price as its cost. In other words, SCI assumed that there was no special cost advantage and therefore that the proper

<sup>151</sup> SR1 paragraph 491, page 157B.

<sup>152</sup> Polifin Board Meeting 8 April 1997, page 8 (Item 440).

<sup>153</sup> SR1 paragraph 492, page 157B.

<sup>154</sup> SR2 paragraph 9, page 192B.

computation is done on the basis of SCI's actual feedstock cost under the 2003 agreement. This approach, as stated above, was not supported by Padilla.

202 Harman argued that the Commission's calculation of the "Sasol FAV" (Condensate 3 + R100 inflated) (see paragraph 197.1.2. above) should be adjusted upwards to reflect the unadjusted One Tier price. In his base case Harman thus assumed that the propylene feedstock is acquired at the FAV reflected in the financial statements, rather than at Roberts' estimated "Sasol FAV" (1994 feedstock supply agreement) as per SR2. Hence, he reconciled SR2 to the Prop-A scenario referred to in GH2.

203 In Table 1b below for purified propylene we reflect the effect on the markups of using the reported figures as stated in the financial accounts instead of Roberts' calculation of "Sasol FAV". The effect of his adjustment is a reduction of the markups of purified propylene by approximately 9% (Tier 1) and 11% (Tier 2)<sup>155</sup> (see the line item "Feedstock: Change from Roberts' "Sasol FAV" to FAV in financial accounts" in Table 1).

*SCI's upwards adjustments to actual costs*

204 SCI argued that *Mittal* footnote 70 disqualifies SCI's actual feedstock cost as a measure for arriving at economic value and that in accordance with footnote 70 and paragraph 43 of *Mittal*, SCI's feedstock cost must be adjusted upwards to bring it in line with the notional competitive norm. Put differently, SCI contended that FAV is not the "market value" of feedstock propylene and that its low feedstock cost should be disregarded in the excessive pricing assessment because that feedstock cost amounts to a "special advantage" to SCI as contemplated by the CAC in *Mittal*. Padilla therefore considered it appropriate, in order to be consistent with modelling the long-run competitive equilibrium, to make an upwards adjustment to the alleged "transfer" price paid by SCI for feedstock propylene.

205 Padilla advanced that the appropriate costs for feedstock is the *South African refinery floor price*, which he regarded as the lowest theoretically possible open

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<sup>155</sup> SCI's submission of 19 February 2014, Table on page 1 (with tax effect).

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market price in a postulated South African market.<sup>156</sup> This approach thus treats Synfuels' feedstock costs as a "special cost advantage".

206 Padilla further contended that Synfuels could charge up to the feedstock customers' break-even price.<sup>157</sup> He argued that a buyer of feedstock would not pay more than its break-even price, that is, a price which allows it to cover its costs and earn a normal return.

207 Based on Padilla's contentions, Harman finally proposed an adjustment to the propylene feedstock cost to reflect the estimated *South African refinery floor price*.<sup>158</sup> This proposed adjustment has the single most significant effect on the experts' price-cost calculations and reduces the base case for purified propylene by approximately 31% (Tier 1) and approximately 35% (Tier 2)<sup>159</sup> and for polypropylene by approximately 22%.<sup>160</sup> It is clear from these figures that the conceptual debate over the treatment of feedstock costs had the most overwhelming effect on the calculated markups.

### *Alleged "transfer" pricing*

208 On the issue of the price between the subsidiaries of Sasol allegedly being an arm's length price, SCI averred that "*when Sasol said it was an arm's length price, it meant no more than that the transfer price did not cross-subsidise downstream operations. It was merely Sasol's attempt at mimicking an arm's length price.*"<sup>161</sup>

209 SCI further argued that Synfuels from time to time negotiated for the sale of feedstock propylene to third parties and that in those negotiations, Synfuels consistently demanded more than its FAV. According to SCI, it was never prepared to sell to third parties at a price equal to its own FAV. In this regard it specifically referred to two joint ventures namely *Project Mango*<sup>162</sup> and *Project 2003*<sup>163</sup>. It

<sup>156</sup> Exhibit 40, Slide 41.

<sup>157</sup> Exhibit 40, Slide 39.

<sup>158</sup> Harman's evidence in chief, page 2566, lines 4 to 10.

<sup>159</sup> See SCI's submissions of 19 February 2014, Table on page 1 (with tax effect).

<sup>160</sup> See SCI's submissions of 19 February 2014, Table on page 3 (with tax effect).

<sup>161</sup> Heads of Argument, paragraph 140.3, page 61.

<sup>162</sup> A joint venture with Dow Chemicals; Synfuels would have provided the feedstock. See MacDougall's supplementary witness statement, paragraph 4.1 to 4.25, pages 631B to 637B. Also see transcript, Roberts, page 1299, line 7, to page 1309, line 2.

<sup>163</sup> MacDougall's supplementary witness statement, paragraph 5.1 to 5.11, pages 637B to 639B. Also see transcript, Roberts, pages 1309, line 3, to page 1313, line 21.

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argued that this demonstrates that, throughout the complaint period, the price at which SCI acquired feedstock was a "transfer" price agreed between fellow subsidiaries of Sasol and not a competitive market price.

210 SCI further argued that the difference between Synfuels and typical refineries, both domestically and internationally, is that Synfuels' opportunity cost is significantly lower because Synfuels' alternative use for low-grade feedstock is in its fuel pool via the CatPoly process. It argued that the feedstock makes a far less valuable contribution to Synfuels' fuel pool than to the fuel pools of other oil refineries which have the alkylation process available to them since the alkylation alternative is far more valuable than Synfuels' CatPoly alternative. It is thus a unique disadvantage suffered by Synfuels, according to SCI. It further argued that this disadvantage affords a unique advantage to SCI because it purchases its feedstock propylene from Synfuels at the latter's FAV.

### Assessment

211 The central question that we had to answer is if feedstock, valued at FAV in Synfuels' hands is a competitive market price or not. As stated above, SCI argued that the actual price at which SCI acquired feedstock propylene was a "transfer" price and not a negotiated competitive market price.

212 Since the price for feedstock propylene between Synfuels and SCI is between related firms, the experts agreed that the feedstock propylene price should be scrutinised to determine whether it reflects an arm's length price and a normal price under conditions of competition.<sup>164</sup>

213 The appropriate test in a section 8(a) analysis is the price charged relative to the economic value of the good or service in question. As highlighted in *Mittal*, the actual costs of the dominant firm are important evidence of economic value provided that they reflect normal costs in long run competitive conditions. It is thus necessary to consider whether SCI's actual costs properly reflect economic value, i.e. whether the price actually paid by SCI for feedstock propylene reflects the price that would have been paid under competitive market conditions.

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<sup>164</sup> Expert Joint Minutes, page 2308B.

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214 To determine the above we have specifically had regard to and placed weight on what Sasol's own internal and public documents say about the price charged by Synfuels to SCI for feedstock propylene.

215 The evidence has shown that over the complaint period and most of the relevant cycle the price for feedstock propylene was determined under formulae in supply agreements that were expressly stated to reflect the FAV of the feedstock propylene to Synfuels. This pricing principle is the principle that would apply to sales to all customers under competitive conditions because it is cost-reflective.

216 Furthermore, Sasol's own internal documents at the time clearly state that FAV was a market price. In particular, the 1995 transfer pricing policy<sup>165</sup> confirms that in Synfuels' view, FAV is an arm's length market related price.<sup>166</sup> The 2001 transfer pricing policy<sup>167</sup> states that the policy of Sasol is that *"Transfer prices should pass the test of the unconstrained transaction ... [and] apply equally to potential third party customers planning to locate on the Secunda site and Sasol Group companies"*.<sup>168</sup> It also states that the departure point is that *"transfer prices should be set on a commercially justifiable arm's length basis"*, and that *"The principle underlying the application of the arm's length standard is that the price derived should be the same as that which would be agreed in the same situation between two independent firms operating at arm's length"*.<sup>169</sup>

217 Sasol repeated these statements in its communications with independent analysts that investigated if Sasol was subsidising its downstream operations. The PVM Oil Associates GmbH (PVM) study of 2003 records that Synfuels sold feedstock at FAV, which Sasol considered to be an arm's length price.<sup>170</sup> PVM recorded that it drew this conclusion from the information provided by Sasol itself.<sup>171</sup> It recorded that *"It is the stated policy and intention of Sasol that these products and services be transacted on an "arms length" basis and approach as closely as possible, a free-market, commercially justifiable price as if the parties were operating*

<sup>165</sup> Exhibit 29, page 122ff.

<sup>166</sup> 1995 Transfer Pricing Policy Document at page 11, Exhibit 29, page 133; also see MacDougall's cross examination, page 3503, line 22, to page 3504, line 11.

<sup>167</sup> Commission's bundle at page 2404ff.

<sup>168</sup> 2001 Transfer Pricing Policy Document at page 7, Commission's bundle at page 2411.

<sup>169</sup> 2001 Transfer Pricing Policy Document at page 5, Commission's bundle at page 2409.

<sup>170</sup> PVM Study at pages 50 and 53, SCI's bundle at pages 1614 and 1617.

<sup>171</sup> PVM Study at page 52, SCI's bundle at page 1616.

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*independently of each other*".<sup>172</sup> Furthermore, PVM specifically recorded that it had been told by Sasol that the prices for feedstock "*are identical for full Sasol subsidiaries, Joint Ventures and third parties. There are no exceptions at present nor are any anticipated in future*".<sup>173</sup>

218 Similar statements are also found in Sasol's annual financial statements. SCI's financial statements repeatedly record that it traded with its fellow subsidiaries "*on an arm's-length basis*".<sup>174</sup> The Sasol financial statements also repeatedly record that "*The group accounts for inter-segment sales and transfers as if the sales and transfers were entered into under the same terms and conditions as would have been entered into in a market related transaction*".<sup>175</sup>

219 We have further had regard to the fact that these statements are representations made to *inter alia* shareholders, the investing public, the JSE, and the SEC in the United States and thus have to contain true and reliable information.

220 Although Behrens tried to argue that pricing on an arm's length basis was only one principle applied under the transfer pricing policy, we have found this not to be a credible argument. Despite being afforded ample opportunity, he could not point to other principles under the transfer pricing policy that would alter this conclusion.<sup>176</sup>

221 We further dismiss the notion that there is, on the one hand, "*the conventional refinery*" that values propylene based on alkylation value and then, on the other hand, Sasol. Neither of the refineries in South Africa selling propylene (Sapref and Natref) valued the propylene on that basis<sup>177</sup> even though they are, according to MacDougall's definition, "*conventional refineries*".<sup>178</sup>

222 Furthermore, we note that Synfuels has an abundance of feedstock propylene.

<sup>172</sup> PVM Study at page 53, SCI's bundle at page 1617.

<sup>173</sup> PVM Study at page 58, SCI's bundle at page 1622.

<sup>174</sup> See "Related party transactions" disclosure note in each of the SCI financial statements 2004 through 2008.

<sup>175</sup> See, for example, Sasol 2007 financial statements accounting policies. Exhibit 36, page 323.

<sup>176</sup> Behrens' cross examination, page 3930, line 3, to page 3943, line 16.

<sup>177</sup> MacDougall's cross examination, page 3409, line 19, to page 3410, line 19.

<sup>178</sup> MacDougall's cross examination, page 3414, line 13, to page 3415, line 11.



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223 We have further considered Koster's evidence that in the USA prices were below FAV (being alkylation value) in 2006<sup>179</sup> and at FAV in 2008<sup>180, 181</sup>. Thus in competitive markets such as the USA fuel producers appear to charge at or even below opportunity cost for feedstock propylene.

224 We conclude that under conditions of competition FAV is the price at which Synfuels would sell its feedstock to all customers in the South African market because it is cost-reflective. This is consistent with Padilla's observation about competitive conditions for feedstock.<sup>182</sup>

225 We further find Padilla's upward adjustment of the actual feedstock prices to determine economic value to be unjustified.

226 Padilla's contention that Synfuels could charge up to the customer's break-even price and that the market price for feedstock is actually the breakeven price for SCI, cannot be the starting point for the analysis. Padilla himself recognised that this assumption renders the entire excessive pricing analysis redundant. In defining the economic value of feedstock propylene as SCI's break-even price, which is the highest price Synfuels could charge, it by definition leads to the conclusion that SCI's prices are not excessive (because they are no higher than its cost). But the circularity in this is obvious. It simply moves the excessive pricing upstream, but prevents scrutiny of the upstream producer because it is not actually charging that feedstock price.

227 Furthermore, in determining his notional lowest price, Padilla did not engage with Synfuels' actual FAV. Instead, he contended that Synfuels would never have to charge below the customer's next best alternative. We note however that Synfuels would never have to charge below its customer's next best alternative since it can supply the whole market. The situation postulated by Padilla therefore does not arise in the South African context.

228 Padilla also suggested that Synfuels could not or would not charge at FAV, because it did not do so when it offered feedstock under *Project Mango* and that

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<sup>179</sup> Koster's cross examination, page 3815, lines 14 to 17.

<sup>180</sup> Koster's cross examination, page 3816, lines 5 to 7.

<sup>181</sup> Koster, Exhibit 59, Slide 41.

<sup>182</sup> JP2 paragraph 4.10, page 1046B.

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the price included a premium.<sup>183</sup> MacDougall candidly acknowledged that the price Synfuels offered was *"appreciably above that [its] opportunity cost, but that's business"*.<sup>184</sup>

229 We find that these examples quoted by SCI are without any evidentiary value since they simply reflect Synfuels' pricing in the absence of competitive conditions. The whole purpose of this excessive pricing analysis is predicated on assuming conditions of competition so that the price of feedstock is cost-reflective. We further note that those offers made, never culminated in sales. The Mango JV, which was going to be an export oriented project, decided that the quoted input price for feedstock was too high and would not yield a profitable return and therefore aborted the project.<sup>185</sup> Project 2003 was also not proceeded with.<sup>186</sup>

230 Furthermore, as stated above, Synfuels itself recognises that it would price to third parties at FAV, in its internal transfer pricing policies and in representations made to external parties, including to government and SARS.

231 Furthermore, Padilla's analysis did not consider the two low cost suppliers that actually exist in the domestic market and only made reference to the highest cost supplier, Sapref<sup>187</sup> (and this based only on his estimate of Sapref's feedstock costs). Padilla confirmed *"... I've [I'm] left exclusively with Sapref. And that's my supply, my notional supply in that long run competitive equilibrium is Sapref and the fuel alternative value is Sapref. That's the supply function."*<sup>188</sup>

232 We shall therefore not consider Padilla's upward adjustment of the actual feedstock prices (as reflected in the financial statements) to determine economic value, since (i) it is an artificial price not based on any actual South African numbers since it is designed to reflect "international market prices" at refinery value, i.e. it is a constructed price not based on any consideration of SCI's willingness to sell. It is simply an intermediate price between the monopoly price (the highest price) and

<sup>183</sup> Exhibit 40, slide 40; also see Padilla's evidence in chief, page 1845, line 18, to page 146, line 10.

<sup>184</sup> MacDougall's cross examination, page 3281, lines 1 to 5.

<sup>185</sup> Transcript, pages 1303 to 1309.

<sup>186</sup> Transcript, page 1312.

<sup>187</sup> Sapref sold purified propylene to Safripol at a contract price from which Padilla inferred a feedstock propylene cost.

<sup>188</sup> Transcript, Padilla, page 2334.

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SCI's price on the basis that there are other high cost producers;<sup>189</sup> (ii) it is higher than the actual alternative, being Natref's supply - Natref's FAV is below or at Synfuels' FAV;<sup>190</sup> and (iii) we place no reliance on the regression (as purportedly performed by MacDougall) given the doubts that exist regarding its accuracy and questions over MacDougall's version of the outcome of the analysis.<sup>191</sup>

233 SCI further raised the procedural issue that the Commission's argument that the *South African refinery floor price* computation is flawed was never clearly raised prior to the Commission's cross-examination of MacDougall. The issue was however raised with Padilla<sup>192</sup> who confirmed that he had not verified the derivation of the SA refinery floor price:

*"ADV SUBEL: Well have you checked that the assumptions I have just given you hold true in South Africa?"*

*DR PADILLA: I didn't check the assumptions ..."*<sup>193</sup>

234 We note that the Commission's financial expert, Wainer, criticised Harman's departure from the actual feedstock prices. The same criticism would however apply to Roberts. Wainer stated *"This adjustment is made in the FTI reports even though the actual decision making and management occurred based on the actually reported figures i.e. the notional position is used instead of the reality used by SCI in actually managing the businesses."*<sup>194</sup>

## Conclusion

235 With regards to the cost of feedstock propylene we have found no convincing arguments to not rely in the price-cost analysis on the actual figures as reflected in the financial statements. In the price-cost test we shall thus rely on SCI's own figures (as reflected in their books) which their auditors have certified were at an "arms length" basis. We have, on a conservative basis, also not accepted the

<sup>189</sup> Padilla's evidence in chief at page 1847, lines 12 to 17; also see Padilla's cross examination, page 2154, line 3 to 6.

<sup>190</sup> MacDougall's cross examination, page 3356, lines 1 to 23.

<sup>191</sup> MacDougall's cross examination, pages 3435 to 3441.

<sup>192</sup> Transcript, Padilla, pages 2321 to 2326.

<sup>193</sup> Transcript, Padilla, page 2324.

<sup>194</sup> HW1 paragraph 3.50, page 423B.

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Commission's downward adjustment of the reflected figures in the financial statements to determine economic value.

236 As noted above we have found substantial evidence that Synfuels recognises that FAV is in fact the market price of the feedstock propylene. This reflects, over a sustained period, Synfuels' determination of its willingness to sell and its market value for the product. SCI's attempts to distance itself from the cost used in its own books simply were not credible.

### Measurement of SCI's capital asset base

237 The valuation of SCI's capital assets is relevant to the determination of two items of cost: (i) the cost of depreciation, i.e. the annual cost of the capital assets used in the business, determined by spreading the total cost of the assets over their useful life; and (ii) the return to investors, that is, the reward to investors for their investments in the firm.<sup>195</sup>

238 The dispute between the experts regarding the proper basis for the valuation of SCI's capital asset base was a dispute over the principle and not quantification, as explained below.

239 The Commission argued that the appropriate asset base is the depreciated historical asset values, i.e. it used a "historical costs" approach. To value the capital base the Commission used the accounting costs based on the historical cost of assets less depreciation.<sup>196</sup> We note that SCI in 2005 significantly reduced its depreciation charge by re-lifing its propylene and polypropylene plants.<sup>197</sup> The Commission confirmed that it used the latter figures in its calculations.<sup>198</sup>

240 As motivation for its historical costs approach the Commission stated that in the period under analysis SCI's assets, although of varied ages, were generally in the early stages of their lives. The Commission found that the largest assets for purified propylene were merely 21%<sup>199</sup> into their useful lives in 2005 - the middle of the

<sup>195</sup> Harman's presentation, Slide 36 (Exhibit 47). Also see transcript, Harman, pages 2473 and 2474.

<sup>196</sup> SR2 paragraph 159, page 223B.

<sup>197</sup> See, for example, transcript, Wainer, page 1513, lines 4 to 11.

<sup>198</sup> Transcript, page 4248.

<sup>199</sup> Average proportion of life in 2005.

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complaint period.<sup>200</sup> With reference to the polypropylene assets, they were in the first half of their lives during the complaint period.

241 The Commission further argued that the replacement of the original capital is automatically provided through the depreciation over the life of the plant,<sup>201</sup> and that the maintenance of capital (i.e. its replacement) in inflation adjusted terms is included in the return enjoyed.<sup>202</sup> Wainer in Exhibit 38 sought to demonstrate that a company which values its assets at historical cost less depreciation, could compensate for its failure to provide for the increased cost of replacement of the asset, by topping up its provision for depreciation by retaining sufficient additional income to replace the asset at its inflated cost. Wainer thus suggested providing for replacement cost by another name in that one would make additional provision for the replacement of the asset over and above its provision for depreciation of the historical cost of the asset.<sup>203</sup> Roberts, however, did not make such latter provision in his calculations.

242 Harman made an adjustment from historical cost to replacement cost to account for the impact of inflation over time and contended that this approach better reflects Sasol's opportunity costs.<sup>204</sup> We stress that he did not determine the costs of new capital assets, but revalued the capital assets by updating their historical costs for inflation by an industry inflation index designed to keep track with inflationary increases in plant cost.<sup>205</sup> For this he used the IHS CERA Index.<sup>206</sup> He thus merely inflated the depreciated book value to determine the value of second hand assets at current prices at the beginning of the complaint period.<sup>207</sup> He also argued that the fact that the assets are on average not yet half depreciated is irrelevant.<sup>208</sup>

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<sup>200</sup> Exhibit 50; although Harman indicated that he would re-check the Commission's calculations before confirming this, he never subsequently disputed the accuracy of the exhibit.

<sup>201</sup> See Exhibit 38.

<sup>202</sup> Wainer's evidence in chief, pages 1519 to 1527.

<sup>203</sup> Transcript, Harman, pages 2490 and 2491: Harman confirmed that Roberts did not compensate for declining historical costs by retaining cash earnings as Wainer tried to demonstrate. Transcript, Harman, pages 2491 and 2492: Roberts' working capital did not include any cash.

<sup>204</sup> GH2 paragraph 4.77, 4<sup>th</sup> bullet, page 1764B. Also see transcript, Harman, page 2474 to 2476.

<sup>205</sup> Transcript, Harman, page 2476.

<sup>206</sup> This is an asset index that is used widely in the chemical industry.

<sup>207</sup> Transcript, Harman, pages 2474 to 2476.

<sup>208</sup> Transcript, page 2793, line 13, to page 2794, line 9.

243 This adjustment from historical cost to replacement cost reduces the markups for purified propylene by approximately 2.8% (Tier 1) and 3.2% (Tier 2)<sup>209</sup> and reduces the markup of polypropylene by approximately [8 - 11]%.<sup>210</sup> The reason for this significant difference in impact is that Sasol Polypropylene has a relatively high capital base compared to Sasol Propylene.

244 Harman, however, then made still a further adjustment by using a higher asset value based on insurance values rather than the IHS construction index. This proposed adjustment makes a further difference to the markups of purified propylene of an additional -1.7% (Tier 1) and -1.9% (Tier 2)<sup>211</sup> and an additional approximate -[<1]%<sup>212</sup> difference to the markup of polypropylene.

245 Wainer conceded that the book value of the assets of a company need bear no relation to their market value and tells one nothing about the cost of replacing them today or at the end of their lives.<sup>213</sup> He further conceded that the historical cost basis of accounting provides only for the replacement of the asset at the end of its life at its original historical cost.<sup>214</sup> It makes no provision for the impact of inflation, because it values assets at the price at which they were purchased.

246 We concur with Harman's approach on the above score. If an asset is valued at historical cost less depreciation in an inflationary environment, as we have in this case, then there is, from the outset, an ever-widening gap between its book value (its historical cost less depreciation) and its current replacement cost. It is, accordingly, not an answer to say that the asset is in its mid-life as argued by the Commission. It simply means that the gap for which no provision has been made is larger than it was in the beginning and smaller than it would be at the end of the asset's life. It still does not compensate for the gap, whatever its size might be.

247 We find that a firm should be allowed to replenish its capital assets. The following explanation shows why that should be the case. The book value of an

<sup>209</sup> SCI's submission of 19 February 2014, Table on page 1 (with tax effect).

<sup>210</sup> See SCI's submission of 10 April 2014.

<sup>211</sup> SCI's submission of 19 February 2014, Table on page 1 (with tax effect).

<sup>212</sup> See SCI's submission of 10 April 2014.

<sup>213</sup> Transcript, Wainer, pages 1657 and 1658.

<sup>214</sup> Transcript, Wainer, pages 1620 and 1621, as well as page 1657.

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asset, at historical cost less depreciation, declines over its life and then spikes when the asset is replaced. This was conceded by Roberts.<sup>215</sup> Economic value based on these costs would follow the same downward slope over the life of the plant and then an upward spike every time that there is a replacement. At a conceptual level it therefore cannot be correct that one adopts a system of economic costing which inevitably allows the economic value of a product to decline over time and then spike when capital assets are replaced.

248 We have further had regard to the CAC's guidance in Mittal which states that one must "*allow for depreciation and replenishment of plant etc*",<sup>216</sup> i.e. to replace assets when they come to the end of their life.

249 We therefore accept that replacement cost (as calculated by Harman) is an appropriate proxy for economic costs in an inflationary environment and we shall in the tables below consider Harman's adjustment using the industry inflation index. However, Harman made no compelling argument for the further reduction in the price-cost markups by using insurance values as an appropriate and reliable value of replacement cost. The insurance values of a firm's assets may for any number of reasons be either over- or understated. If one is going to value assets by reference to an insurance value, one needs to fully interrogate the insurance valuation methodology, because insurance standards and economic standards may all differ. This was not done.

### Return on capital / cost of capital

250 The disputed issues between the experts related to equity capital and not to loan capital.<sup>217</sup> The cost of equity capital is the reward that the company has to provide to its shareholders/investors in order to attract and retain their investment in its equity. The question thus was what the economic cost is during the relevant period of an appropriate rate of return for the investors in both the purified propylene and polypropylene businesses.

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<sup>215</sup> Transcript, page 1346.

<sup>216</sup> Mittal (CAC) at paragraph [52].

<sup>217</sup> It was accepted that the latter is an economic cost and that its quantification is uncontroversial.

251 The Commission and SCI agreed that in factoring an economic cost, one must look not only at the operation and production costs of the firm, but one must give a normal profit, i.e. a normal return, to the firm as part of its economic costs. This was also recognised by the CAC, which said that the costs one should consider include a "normal" profit (see paragraphs 69 above). The CAC further made it clear that when doing a detailed exercise in comparative costing, the appropriate methodology needs "*to establish the opportunity cost of capital ....*"<sup>218</sup>

252 The principle underlying this debate is that investors will move their capital investment in a firm if they do not receive an acceptable return on that investment. In the words of Lipsey "*Capital will not be maintained in an industry unless it is expected to yield a return at least equal to what it can earn in comparable uses in other industries. Thus, over an extended period of time, the firm's activities must yield a return to its capital equal to what it could earn in other comparable industries. If not, the owners will move their capital elsewhere.*"<sup>219</sup>

253 There were two material disputes relating to this issue, namely:

- (i) the appropriate equity risk premium above the risk-free rate

The dispute between the financial experts was about the size of the return on capital; it was common cause that a normal return on capital must be at a premium above the risk-free rate represented by the government long bond rate,<sup>220</sup> and

- (ii) whether that benchmark is a pre-tax or after-tax measure, that is, whether it is a return which must be achieved by the company's pre-tax earnings or by its after-tax earnings.

254 We deal first with the first dispute.

*First dispute: determination of the equity risk premium*

<sup>218</sup> Mittal (CAC) at paragraph [52].

<sup>219</sup> R Lipsey, *An introduction to positive economics*, at 217.

<sup>220</sup> See, for example, transcript, Wainer, pages 1687 and 1688.



255 The Commission contended for the use of a pre-tax capital reward by adding a 3% premium to the South African government 10-year bond rate; it further submitted that the long bond rate + 5% can also be considered as a sensitivity check.

256 Wainer indicated the broad range of the commonly applied premium over the risk free rate to be from roughly 4% to 7%. He stated that the equity risk premium *"varies in a broad range of roughly 4% to 7%, with major projects being at the lower end"*.<sup>221</sup> He argued that one should look at the market return over the risk-free rate and then increase it on the basis of *"a judgment from experience"* of what investors generally demand.<sup>222</sup> He, however, did not say what the market return over the risk-free rate was or explained how he got from there to his 4% to 7% range. Roberts picked 3% and, as said above, also used 5% as a sensitivity check.

257 Harman, on the other hand, based his determination of the normal return on capital on a computation of the WACC of SCI and within the determination of the WACC he used the capital asset pricing model ("CAPM") for the determination of the cost of equity.<sup>223</sup>

258 Despite its widespread use, Wainer disputed and heavily criticised Harman's methodology. We have, however, found no basis in support of dismissing Harman's methodology entirely. Although criticised by some, including some credible authors, it cannot be disputed that CAPM in fact is widely used in the determination of the cost of equity, as demonstrated by SCI.<sup>224</sup>

259 We note that Harman made a number of cumulative adjustments to the Commission's calculations by considering various possible risk premiums, namely: (i) an adjustment from the Commission's bond rate + 3% to a period average WACC;<sup>225</sup> (ii) from the bond rate + 3% to an inception WACC; and (iii) lastly he also used the inception WACC plus a hurdle rate.

<sup>221</sup> HW1 paragraph 3.90, page 435B.

<sup>222</sup> Transcript, Wainer, pages 1689 to 1697.

<sup>223</sup> GH3, Table A2.1, page 2099B; GH3 Table A3.1, page 2104B.

<sup>224</sup> Transcript, Harman, pages 2500 to 2502. Transcript, Wainer, page 1699.

<sup>225</sup> Harman used a simple average WACC over the period 2001 to 2009. GH1 Table 7.1, page 1423B.

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260 As noted above, SCI further argued that the Commission failed to recognise that CAPM generates a post company tax return.

261 Moving from the bond rate + 3% to the period average WACC (taking the tax effect into account) reduces the markups for purified propylene by 2% (Tier 1) and 2.3% (Tier 2)<sup>226</sup> and reduces the markup for polypropylene by approximately [5 - 7]%.<sup>227</sup>

262 Both the Commission and SCI strongly argued that their approaches were appropriate. For example, the Commission argued that Harman confirmed in his evidence that Sasol borrows at the risk free rate [...] <sup>228</sup>, but SCI argued that this was merely the amount required by debt holders and that shareholders require an amount in addition to this value. SCI, on the other hand, argued that the risk premium range considered by Harman is conservative compared to what the National Energy Regulator of South Africa (NERSA) has assumed for Eskom.<sup>229</sup>

263 We have considered a range of assumptions in our assessment ranging from the long bond rate + 5%, as used by Roberts in his sensitivity analysis, to Haman's use of the period average WACC.

264 We have found the use of the bond rate + 3% by Roberts to be intuitive, subjective and inadequately motivated. It is below the bottom and mid-point of the range suggested by Wainer and we therefore have not considered it in our assessment. We have, however, also found Harman's proposed use of an inception WACC and the further adding of a hurdle rate inadequately motivated and therefore inappropriate.

265 SCI's local prices are higher than in other, higher cost markets such as Western Europe while its feedstock costs are, on SCI's own estimation, roughly 25% lower than the benchmark alkylation refinery calculation done by SCI. If the cumulative adjustments proposed by Harman were made for firms in other competitive markets then they would also likely be loss-making.

<sup>226</sup> SCI's submission of 19 February 2014, Table on page 1 (with tax effect).

<sup>227</sup> See SCI's submission of 10 April 2014.

<sup>228</sup> Harman's cross examination, page 2901, lines 14 to 23.

<sup>229</sup> GH1, A9.62, page 1664B.

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266 We further do not accept Harman's suggested use of the inception WACC for the following reasons: First, we reject his approach at a conceptual level since one has to consider the ordinary return in the complaint period because it is against the ordinary return that one measures the relevant prices. Second, the project inception date was 1990, but Harman's inception WACC is either 2000 or 2003; he eventually used 2000. The year 2000 used as inception WACC was the highest WACC range out of all of the years considered i.e. 1999 to 2010. For this reason alone his calculation is inappropriate.

267 With regards to Harman's use of the hurdle rate, i.e. the rate used to evaluate new projects, we note that Harman did not originally make this adjustment in his base case, but added this at a later stage. In his evidence under cross examination, he justified this adjustment as taking into account specific risk.<sup>230</sup> He however acknowledged that it is difficult to account appropriately for project specific risk and as a result he was treating the hurdle rate as a further adjustment or sensitivity analysis to corroborate the reasonableness of his base case. He conceded that he made a simplifying assumption:

*"ADV SUBEL: How have you calculated the hurdle rate with reference to SCI's propylene business?"*

*MR HARMAN: I've made a simplifying assumption that it is the same. ... Now, I agree that assessing the allowance for specific risk is difficult. There is no scientific way of doing it. Some allowance has to be given for it and that's why when I make the adjustment specific risk, I'm treating that as a further adjustment. It's not in my base case."*<sup>231</sup>

268 We have further found no basis in *Mittal* (CAC) for Harman's latter adjustment. The CAC is clear that the cost calculation should include a reward on capital invested; this is quite different from including a higher hurdle rate that a company may choose to use in its prospective investment decision-making (that is not related to purified propylene or polypropylene).

269 Furthermore, this case does not concern the type of investment that would justify a too high premium. In fact the evidence suggests that SCI's purified propylene

<sup>230</sup> Harman's cross examination, page 2854, line 11, to page 2855, line 18.

<sup>231</sup> Harman's cross examination, page 2854, line 20, to page 2855, line 7.

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and polypropylene investments are relatively low risk given that they are essentially based on off-the-shelf technology, as reflected in SCI's own sourcing decisions for upgrading and expanding capacity. Although MacDougall attempted to assert the contrary by listing innovative (and risky) investments that have been undertaken by Sasol and/or SCI, he failed to provide an example of any such investment that specifically related to the production of purified propylene.<sup>232</sup>

270 We have further considered the fact that Sasol's synthetic fuels business produces relatively large proportions of feedstock propylene and that Sasol must find an outlet for the propylene in order to continue running the fuel business. Thus, the purified propylene and polypropylene investments reduce the risk to the fuel business.

271 We now turn to the second dispute between the experts, i.e. the before- or after tax return issue.

### *Second dispute: a before- or after tax return*

272 The second dispute between the experts was whether the equity reward is a pre-tax or after-tax measure, that is, whether it is a return which must be achieved by the company's pre-tax earnings or by its after-tax earnings. Wainer argued that the WACC is pre-tax and Harman contended that the deduction of tax is necessary for the calculation of the return on capital in order to make the comparison "consistent".

273 Harman estimated the cost of capital on a post-tax nominal basis denominated in local currency. He said that this approach was consistent with his calculation of profitability, which was also stated on a local post-tax nominal basis.<sup>233</sup> He further said that he defined the ROCE on a post-tax basis because he compared returns to a post-tax calculation of the WACC. According to Harman, it is simply a matter of consistency – there is no theoretically superior method of calculation, i.e. pre-tax or post-tax.<sup>234</sup> SCI further argued that the question was how much it cost

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<sup>232</sup> Exhibit 55, Slide 19; MacDougall's cross examination, page 3472, line 8, to page 3483, line 16.

<sup>233</sup> GH1 paragraph 2.32, 2<sup>nd</sup> bullet, page 1290B.

<sup>234</sup> GH1 paragraph 5.34, page 1351B.

the company to provide the return that investors require and not the building blocks used to determine the rate that investors require.

274 We note that Harman did his calculations taking into account the stated tax effect. We requested SCI to also provide Harman's calculations without the tax effect. SCI submitted these figures to the Tribunal on 17 February 2014.<sup>235</sup>

275 We have done our assessment in favour of SCI, including the tax effect. Ultimately whether or not one includes the tax effect does not significantly alter the figures and does not change our final conclusions.

### Group costs

276 The experts in principle agreed that, insofar as Sasol's group costs, i.e. central overheads from Sasol group, were incurred for the benefit of SCI's production of either purified propylene or polypropylene during the complaint period, that an appropriate allocation of those costs should be included in the economic cost computation.<sup>236</sup> The issue therefore was what allocation of group costs should be made in respect of SCI's purified propylene and polypropylene production respectively.

277 Roberts allocated certain group costs to the polypropylene business on an adjusted basis, but none to purified propylene.<sup>237</sup> The Commission confirmed that it was "*prepared to accept conservatively an adjustment to polypropylene*" but not "*in relation to propylene*."<sup>238</sup> The real ambit of the dispute between the experts therefore related to purified propylene.

278 Harman did not include any group costs in his base case,<sup>239</sup> but in his Second Report he included certain overhead charges allocated by the Sasol Group to Sasol Propylene and Sasol Polypropylene as a once-off allocation in 2009.<sup>240</sup> We

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<sup>235</sup> The first table in SCI's submission reflects the purified propylene results with the tax effect and the second table the purified propylene results without the tax effect; the third table reflects the polypropylene results with the tax effect and the fourth table the polypropylene results without the tax effect.

<sup>236</sup> Transcript, Roberts, pages 1365 and 1371. Transcript, Harman, pages 2520 and 2521.

<sup>237</sup> SR2 paragraphs 202 to 204, pages 235B and 236B; see also paragraphs 216 and 217, page 237B.

<sup>238</sup> Adv. Wesley for the Commission, transcript page 4212.

<sup>239</sup> GH1 paragraph 4.27, page 1336B.

<sup>240</sup> GH2 paragraph 4.86, pages 1768B and 1769B.

note that the split within Sasol Monomers between propylene and ethylene was done based on asset values.<sup>241</sup> Harman then also allocated a cost in respect of this item for each year of his analysis by deflating the 2009 allocation.<sup>242</sup> In his polypropylene analysis he included both propylene group costs and polypropylene group costs into the integrated polypropylene business that was assessed.

279 We explain below how Sasol allocated its group costs, specifically in 2009.

280 During the period under review group costs were allocated at the Sasol Polymers level. SCI stated that for reasons of accounting convenience group costs, however, were not, other than in FY2009, allocated further within Sasol Polymers to respectively the propylene and polypropylene businesses.<sup>243</sup> Behrens testified that the group costs were allocated to propylene and polypropylene in FY2009 because a new managing director wanted to understand their true profitability. However, that business unit allocation exercise was not performed either before or after 2009, because it was onerous and regarded as not being worth the effort.<sup>244</sup>

281 SCI submitted that the fact that group costs were not allocated in the other years than 2009 does not, however, mean that SCI's propylene or polypropylene businesses did not benefit from such group costs during the complaint period.

282 The effect of Harman's proposed adjustments for group costs on Roberts' price-cost markups is to reduce the markups of propylene by 5.1% (Tier 1) and 5.6% (Tier 2).<sup>245</sup>

283 To contextualise the debate we explain below what these group costs were and how they were allocated by Sasol in 2009.

284 The basis upon which the different categories of group costs were allocated in 2009 is set out in Harman's Third Report and his Slide 58.<sup>246</sup> Three cost items made up approximately [70% - 90%] of these group costs, namely:<sup>247</sup>

<sup>241</sup> Harman's Slides 58 and 61 (Exhibit 47).

<sup>242</sup> GH2 paragraph 4.86, pages 1768B and 1769B.

<sup>243</sup> Transcript, Behrens, pages 3892 to 3983. Also see transcript, Harman, page 2521.

<sup>244</sup> Transcript, Behrens, pages 3892 to 3983.

<sup>245</sup> SCI's submission of 19 February 2014, Table on page 1 (with tax effect).

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### (i) corporate development costs

Corporate development costs were by far the largest of these cost items.<sup>246</sup> Behrens confirmed that the corporate development costs related mainly to research and development ("R&D") costs. These R&D costs were incurred centrally by Sasol Technology and were allocated to all businesses within the Sasol Group which benefited from those costs. Behrens said *"the research and development costs that are incurred centrally within Sasol Technology and then are allocated across the business units on the basis that all the businesses that draw feedstocks from Synfuels as well as those business units which supply product into Synfuels, so it would include Mining and Sasol Gas as well, benefit from the fact that the heart of the value chain sits within Sasol Synfuels, the Fischer Tropsch technology and the associated research and that those costs are actually then recovered across all of those business units."*<sup>249</sup>

Within SCl that group cost was allocated to the Sasol Monomers division as the primary beneficiary of the R&D in question.<sup>250</sup> Behrens explained: *"what is fundamentally to building a polymer industry is to have a Monomer business. That is really the core. Without that we wouldn't be building a polymer industry in this country."*<sup>251</sup>

### (ii) Sasol management fee costs

Sasol management fee costs refer to Sasol Group head office costs. This was allocated according to a five-way split amongst the Sasol Polymers business units.<sup>252</sup>

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<sup>246</sup> GH3 Table A5.2, pages 2111B to 2112B. This is replicated in Exhibit 61, pages 3 and 4. Transcript, Behrens, page 3903.

<sup>247</sup> Harman's Slide 60 (Exhibit 47).

<sup>248</sup> Harman's Slide 60 (Exhibit 47).

<sup>249</sup> Transcript, Behrens, page 3895.

<sup>250</sup> Transcript, Behrens, page 3895.

<sup>251</sup> Transcript, Behrens, page 3900.

<sup>252</sup> *Inter alia* Harman's Slide 60 (Exhibit 47).

(iii) insurance costs

The insurance costs are asset insurance costs, allocated to propylene on the basis of the assets within that business.<sup>253</sup>

285 The Commission argued that the group costs, specifically corporate development costs or R&D, were not necessarily incurred for the benefit of the purified propylene business.

286 As quoted above, in his evidence in chief Behrens said that the corporate development costs are recovered from all business units in recognition of Synfuels' position at the heart of the value chain.<sup>254</sup> Although Behrens alluded to the benefits of this research to Sasol Polymers and propylene, no evidence was presented on R&D expenditure for new or improved grades of purified propylene. Indeed, the evidence was that the technology is standard. This is clear from the evidence of MacDougall as quoted in paragraph 112 above. Furthermore, MacDougall's claim that the R&D related to Synfuels' production of chemical feedstocks benefited SCI was not supported by any evidence of this for propylene.

287 The evidence suggests that the corporate development costs, which represent approximately 65% of the group costs allocated to propylene, were actually for the Fischer Tropsch technology and the associated research. We have found no direct link between the supposed value of this research to purified propylene and the cost allocated to purified propylene. There was also no evidence that the costs allocated to propylene were incurred for propylene.

288 Furthermore, Behrens gave evidence that the group costs were allocated to Sasol Polymers on an operating margin basis.<sup>255</sup> However, this would give rise to a bias as more costs would be allocated to the businesses that have high operating margins rather than the businesses that realise the most value from the research.

<sup>253</sup> GH3, Table A5.2, page 2111B. Harman's Slide 60 (Exhibit 47).

<sup>254</sup> Behrens' evidence in chief, page 3895.

<sup>255</sup> Behrens' cross examination, page 4002, lines 1 and 2.



289 Harman's method of the allocation of group costs for the years other than 2009 by using deflation on an index basis is also problematic. As explained above, it is based on a simple deflation of a single year's costs whilst there was no evidence that these components of group costs simply moved with inflation, i.e. there was no evidence that the allocations made by Harman to purified propylene resemble actual costs in the production and sale of purified propylene.

290 Furthermore, the evidence revealed that some of the costs incurred in 2009 were not incurred in the other relevant years. For example, the cost for the *Inzalo share scheme*<sup>256</sup> was included in the 2009 group cost figure, and makes up 20% of the total cost, but was only launched in 2008 and thus should not be included in the years 2002 – 2007. Behrens confirmed this under cross examination.<sup>257</sup> Behrens further conceded that legal costs, another significant group cost item in 2009, would not be the same in each year and will have "some variability".<sup>258</sup>

291 Although there is no unique allocation method, given the above, we conclude that Harman's methodology for allocating group costs to the purified propylene business is highly questionable and, furthermore, that his figures are significantly overstated.

292 As noted above the dispute between the experts related mostly to purified propylene. As also noted, Harman in his polypropylene analysis included both purified propylene group costs and polypropylene group costs into the integrated polypropylene business that was assessed.

293 Furthermore, SCI indicated to the Tribunal that the purified propylene group costs only flow through to the price-cost markups in polypropylene, when the price of purified propylene is set at the economic cost of propylene (i.e. Roberts' 'adjusted' scenario).<sup>259</sup>

294 Based on the above we have not made any adjustments to the price-cost markups for group costs.

<sup>256</sup> An empowerment share scheme instituted by Sasol and launched in 2008.

<sup>257</sup> Behrens' cross examination, page 4018, line 7, to page 4019, line 8.

<sup>258</sup> Behrens' cross examination, page 4017, line 22, to page 4018, line 5.

<sup>259</sup> See email from SCI's attorneys of 23 April 2014 in response to a query of the Tribunal.