



Section 57 of the Competition Act (Cap. 50B)

Grounds of Decision issued by the Competition Commission of Singapore

In relation to the notification for decision of the proposed acquisition by Seagate Technology Public Limited Company of certain assets of the hard disk drive business of Samsung Electronics Co., Ltd pursuant to section 57 of the Competition Act

29 November 2011

Case number: CCS 400/003/11

Confidential information in the original version of this Decision has been redacted from the published version on the public register. Redacted confidential information in the text of the published version of the Decision is denoted by [X].

I. Introduction

The notification

1. On 25 May 2011, Seagate Technology Public Limited Company (“Seagate”) and Samsung Electronics Co., Ltd (“Samsung”) (collectively the “Parties”), filed a joint notification pursuant to section 57 of the Competition Act (Cap. 50B) (the “Act”), for a decision by the Competition Commission of Singapore (“CCS”) as to whether the proposed acquisition, by Seagate of certain assets of the hard disk drive (“HDD”) business of Samsung pursuant to an Asset Purchase Agreement (the “Transaction”), would infringe the section 54 prohibition of the Act.
2. At the end of the Phase 1 review, CCS was unable to conclude, based on the information before it, that the Transaction did not raise competition concerns. As such, on 3 August 2011, CCS informed the Parties that it was proceeding to a Phase 2 review, and requested that the Parties submit a Form M2. On 7 September 2011, upon receipt of a complete Form M2 from the Parties, CCS proceeded with a Phase 2 review.
3. In the context of this Transaction, CCS contacted the three competitors of the Parties -- Western Digital Corporation (“Western Digital”), Hitachi Global Storage Technologies (“HGST”) and Toshiba Corporation (“Toshiba”) --, as well as the [X] customers¹ whom the Parties submitted as their direct customers in Singapore. In addition, CCS contacted [X] original equipment manufacturers² who use HDDs. Approximately two-thirds of the companies contacted gave substantive responses to our questions³. In addition, CCS met with various government agencies⁴ to discuss the HDD industry in Singapore and the general industry trends. CCS also spoke to other overseas competition authorities assessing this global transaction.
4. At the end of the consultation process and after evaluating the further evidence obtained in the Phase 2 review, CCS has concluded that the Transaction, if carried into effect, will not infringe section 54 of the Act.

¹ Namely: [X].

² Namely: [X].

³ Namely: [X].

⁴ Namely: [X].

II. The Parties

(a) Seagate

5. Seagate is a publicly traded company organised under the laws of Ireland⁵. It is active worldwide in the design, manufacture and marketing of a broad range of computer storage devices, consisting mostly of HDDs and Hybrid HDDs (“H-HDDS”)⁶ for sale for mobile, enterprise, desktop and consumer electronic end-uses⁷. Seagate also produces thin-film recording media and read/write heads that are for captive use in its HDDs. In addition, Seagate sells Network Attached Storage systems and consumer electronic devices that incorporate HDD products and provides data storage services for small-to-medium-sized businesses, including online backup, data protection and recovery solutions⁸.
6. Seagate’s activities in Singapore include [X]⁹.
7. Seagate’s worldwide turnover was US\$11.395 billion (approximately S\$14.069 billion) for the fiscal year ending 2 July 2010¹⁰. Its turnover in Singapore for the same period was US\$5.546 billion (approximately S\$6.847 billion). Seagate’s turnover in Singapore from the sale of HDDs was [X] in 2010¹¹.

(b) Samsung

8. Samsung’s business portfolio includes the supply of consumer electronics and premium home appliances; mobile phones and telecommunications equipment; memory, logic semiconductors, and hard drive storage systems; and LCD panels for the television monitor, notebook, and digital information display markets¹². The HDD business of Samsung designs, manufactures, markets and sells HDDs on a worldwide basis to original equipment manufacturers (“OEMs”), original design manufacturers (“ODMs”), distributors, resellers and retailers¹³.

⁵ Form M1, paragraph 2.2.1.

⁶ According to the Parties, H-HDDs are built upon existing HDD product designs, and have many of the same technical features as the original HDD. The primary difference between a H-HDD and a HDD is the addition of the embedded Flash memory.

⁷ Form M1, paragraph 2.2.3.

⁸ Form M1, paragraph 2.2.3.

⁹ Form M1, paragraph 11.1.1.

¹⁰ Form M1, paragraph 3.1.4.

¹¹ Response dated 7 July 2011 to CCS’ Second Request for Information, Table 2.1.

¹² Form M1, paragraph 2.2.4.

¹³ Form M1, paragraph 2.2.5.

9. Samsung's HDD business in Singapore is [X]¹⁴.
10. Samsung's total worldwide turnover was [X] for 2009. Its total turnover in Singapore was [X] for the same period. The Samsung HDD business worldwide turnover was US\$[X] (approximately S\$[X]) and the Samsung HDD business Singapore turnover was US\$[X] (approximately S\$[X])¹⁵ for the financial year 2010. Samsung's total revenue from the sales of all HDDs in Singapore was [X] in 2010¹⁶.

III. The Transaction

11. The Transaction involves the acquisition by Seagate of certain assets of the HDD business of Samsung at the agreed purchase price of US\$1.375 billion (approximately S\$1.6835 billion)¹⁷. The Transaction will be carried out by Seagate Technology International ("Seagate Technology"), an indirectly wholly-owned subsidiary of Seagate. Under the terms of the Asset Purchase Agreement, Seagate Technology will acquire Samsung's assets relating to the research, development, manufacture and sale of HDDs, as conducted primarily by the Storage Systems Division of Samsung, using an equal combination of cash and a loan note, with the amount due under the loan note being exchangeable, at the option of each of the Parties, for 45,239,490 ordinary shares in Seagate¹⁸. Completion of the Transaction is anticipated to take place no later than 31 December 2011¹⁹.
12. In Seagate's submission, the rationale of the Transaction is that it [X]²⁰.
13. Based on the Parties' submission, the Transaction constitutes a merger pursuant to section 54(2)(c) of the Act²¹.

¹⁴ Form M1, paragraph 11.1.2.

¹⁵ Form M1, paragraph 3.1.5.

¹⁶ Response dated 7 July 2011 to CCS' Second Request for Information, Table 2.2.

¹⁷ Form M1, paragraph 3.1.3.

¹⁸ Form M1, paragraph 3.1.9.

¹⁹ Form M1, paragraph 3.1.13.

²⁰ Form M1, paragraphs 3.2.1 to 3.2.14.

²¹ Section 54(2)(c) of the Act provides that a merger occurs if the result of an acquisition by one undertaking (the first undertaking) of the assets (including goodwill), or a substantial part of the assets, of another undertaking (the second undertaking) is to place the first undertaking in a position to replace or substantially replace the second undertaking in the business or, as appropriate, the part concerned of the business in which that undertaking was engaged immediately before the acquisition.

IV. Competition Issues

14. The Parties submitted that their activities overlap in the manufacture and sale of HDDs²²; there is no other reportable market in which the notified Transaction will have a significant impact²³.
15. In view of the Parties' submission, CCS considered whether the Transaction would lead to coordinated or non-coordinated effects that would substantially lessen competition in the HDD market in Singapore.

V. Relevant Markets

(a) Product market

16. A HDD is a digital data storage device. HDDs are customarily categorised by reference to their end use, such as (i) Enterprise (used in servers and enterprise storage systems), (ii) Desktop (used in personal computers), (iii) Mobile (used in laptops for example), and Consumer Electronics (used in devices such as digital music players, digital video cameras etc). HDDs may also be differentiated by their technical characteristics, such as size/form factor (e.g. 1.8", 2.5" and 3.5"), rotational speed (seek time), storage capacity and the type of interface.
17. In terms of supply structure, there are three main distribution channels that HDD manufacturers sell to: OEMs, independent distributors and retailers²⁴. The largest OEM purchasers of HDDs include PC manufacturers like HP, Dell, Acer, Lenovo and Asustek, as well as enterprise storage suppliers like EMC Corporation and NetApp²⁵. Independent distributors purchase from HDD manufacturers to resell to retailers, systems integrators, value-added resellers etc. Retailers sell HDDs directly to the end user²⁶. The Parties submitted that their customers in Singapore are [X<]^{27 28}.

(i) The Parties' submissions

18. The Parties submitted that the market for HDDs is a single product market. Given the demand-side and supply-side substitutability of HDDs, there are

²² Form M1, paragraph 3.1.7.

²³ Form M2, paragraph 1.1.

²⁴ Form M1, paragraph 8.1.28.

²⁵ Form M1, paragraph 8.1.29.

²⁶ Form M1, paragraph 8.1.48.

²⁷ Response dated 15 July 2011 to CCS' Second Request for Information.

²⁸ Parties' Response dated 16 August 2011, paragraph 3.2.6.

no separate markets delineated by end-use, form factor interface or any other particular HDD characteristics²⁹.

19. While acknowledging that HDDs have customarily been categorised by reference to end-use, the Parties submitted that such boundaries have become increasingly blurred since the same HDDs can be utilised across a number of end-uses³⁰. There is also demand substitutability across technical attributes like form factor: the Parties noted that there has been increasing substitutability between 2.5” and 3.5” HDDs as their per-unit prices converge³¹. On the supply side, the Parties submitted that HDD suppliers can redeploy capacity across products relatively easily, as the same or similar technology is generally used in the production of all types of HDDs³².
20. The Parties further submitted that other disk storage technology, most notably Solid State Drives (“SSDs”)³³, compete strongly against HDD technology and will become directly substitutable with HDDs³⁴. The Parties noted that SSDs have already successfully displaced HDDs in the high-end enterprise space and is anticipated to proliferate to less mission critical applications as well as the mobile and consumer electronic space³⁵. According to the Parties, although SSDs are significantly more expensive today on a price per gigabyte basis, they may be less expensive than HDDs on a quality-adjusted basis, especially for small consumer electronics and many mobile devices³⁶. Manufacturers of SSDs include the five HDD manufacturers as well as STEC Inc, Intel, Micron, SanDisk and SMART Modular.

(ii) *CCS’ assessment*

21. CCS notes that previous decisions by the European Commission involving HDDs had considered the sub-categories according to end-use and others (e.g. according to form factor or interface), but ultimately left the market definition open³⁷.

²⁹ Form M1, paragraph 6.1.5.

³⁰ Form M1, paragraph 6.1.6.

³¹ Form M1, paragraph 6.1.10.

³² Form M1, paragraph 6.1.44.

³³ SSDs are also data storage devices but using a different technology (flash memory). They have improved technical characteristics such as faster access and higher reliability. However, they still come at much higher prices.

³⁴ Form M1, paragraph 6.1.2.

³⁵ Form M1, paragraph 6.1.14.

³⁶ Form M1, paragraph 6.1.23.

³⁷ COMP/M.4100 Seagate/Maxtor, COMP/M.2199 Quantum HDD/Maxtor, COMP/M.2821 Hitachi/IBM Harddisk Business, COMP/M.5483 Toshiba/Fujitsu HDD Business.

22. CCS' inquiry did not bring conclusive results about whether the sub-categories of HDDs according to end-use and technical characteristics make up separate product markets. In general, the Parties' competitors agreed that the HDD market should be considered a single product market on the basis of demand-side and supply-side substitutability³⁸. However, the views of customers were mixed: some expressed that the different types of HDDs are generally not substitutable as each serves a different market segment, user requirement or end product design³⁹; others felt that there could be some degree of substitutability across different types of HDDs (e.g. between HDDs that share the same connecting interface)⁴⁰.
23. With respect to the substitutability between SSDs and HDDs, the majority of HDD customers surveyed expressed that the two are generally not substitutes due to differences in price and product attributes⁴¹. Competitor [X] too was of the opinion that while SSDs are becoming increasingly substitutable for HDDs, they will not replace HDDs in the immediate future⁴². Competitors [X] and [Y], on the other hand, agreed with the Parties that a comparison of SSDs and HDDs on price alone does not capture the additional performance benefits of SSDs, and that SSDs has a growing presence in the Enterprise segment⁴³.
24. Based on the feedback, CCS is of the view that SSDs are not a substitute for HDDs for the time being (especially across all types of HDDs), and therefore do not belong to the same product market as HDDs. As to whether HDD is a single product market or whether it should be broken down further by end use and/or technical characteristics, CCS is of the view that the exact scope of the relevant product market for HDDs can be left open for the purposes of this decision, as the Transaction does not raise competition concerns under any of the alternative product market definitions.

(b) Geographic Market

(i) The Parties' submissions

25. The relevant geographic market is the area over which substitution of the relevant product takes place.

³⁸ Response from Western Digital, HGST and Toshiba to Questions 9 and 10 of CCS Questionnaire to competitors.

³⁹ Response from [X] to Question 4 of CCS Questionnaire to customers.

⁴⁰ Response from [X] to Question 4 of CCS Questionnaire to customers.

⁴¹ Response from [X] to Question 6 of CCS Questionnaire to customers.

⁴² Response from [X] to Question 7 of CCS Questionnaire to competitors.

⁴³ Response from [X] and [Y] to Question 7 of CCS Questionnaire to competitors.

26. The Parties submitted that the geographic market is worldwide. In support of this, the Parties highlighted the European Commission's view in *Toshiba/Fujitsu HDD Business* that the market for HDDs, including all types of HDDs, is worldwide in scope⁴⁴. Respondents to the European Commission's market investigation in that case indicated that HDD purchasing was centralised for production facilities throughout the world and prices were negotiated worldwide, resulting in worldwide homogenous price levels; and that transport costs compared to the value of the HDDs were low.

(ii) *CCS' assessment*

27. CCS' inquiry supported the Parties' submission that the geographic market is worldwide. Competitors [X] and [X] agreed that the HDD industry is worldwide and that all HDD manufacturers sell their products on a global basis although they are generally manufactured in Asia⁴⁵; such manufacturing and distribution patterns are facilitated by the fact that HDDs are high value products so transport costs account for only a small portion (about 2-3% on average) of the sales price⁴⁶. Competitor [X] too expressed that HDD suppliers sell their products on a global basis⁴⁷. Similarly, the customers surveyed agreed that the location of the HDD manufacturer is not important⁴⁸. Many customers also purchase on a global or regional basis⁴⁹.

28. In light of the available evidence, CCS considered that the market for HDDs is global in geographic scope. However, CCS has assessed this Transaction in the context of its specific effect on the global supply of HDD to customers in Singapore.

VI. Market Structure

(i) Market shares and market concentration

29. The Parties' estimates of global market shares for all HDDs (i.e. HDDs as a single product market) by value are set out in the table below. The market shares by volume presents a similar picture.

⁴⁴ Form M1, paragraph 6.1.60.

⁴⁵ Response from [X] and [X] to Question 15 of CCS Questionnaire to competitors.

⁴⁶ Response from [X] and [X] to Question 15 of CCS Questionnaire to competitors.

⁴⁷ Response from [X] to Question 15 of CCS Questionnaire to competitors.

⁴⁸ Response from [X] to Question 7 of CCS Questionnaire to customers.

⁴⁹ Response from [X] to Question 8(a) of CCS Questionnaire to customers.

Table 1: All HDDs Worldwide – Market Share by Value (2008-2010)

	2008 (%)	2009 (%)	2010 (%)
Seagate	[30-40]	[30-40]	[30-40]
Samsung	[5-15]	[5-15]	[5-15]
Western Digital	[20-30]	[25-35]	[25-35]
HGST	[15-25]	[15-25]	[15-25]
Toshiba	[5-15]	[5-15]	[5-15]
Others	[5-15]	[0-10]	[0-5]
Seagate + Samsung (pro-forma)	[40-50]	[40-50]	[40-50]

30. The Parties' estimates of global market shares of HDDs broken down by end-use and form factor are set out in Tables 2 and 3 respectively.

Table 2: HDDs categorised by End Use – Market Share Worldwide by Value (2010)

	Mobile (%)	Desktop (%)	Consumer Electronics (%)	Enterprise (%)
Seagate	[15-25]	[35-45]	[20-30]	[60-70]
Samsung	[10-20]	[5-15]	[0-5]	[0-5]
Western Digital	[20-30]	[35-45]	[15-25]	[0-5]
HGST	[20-30]	[10-20]	[20-30]	[20-30]
Toshiba	[20-30]	[0-5]	[25-35]	[5-15]
Seagate + Samsung (pro-forma)	[25-35]	[40-50]	[20-30]	[60-70]

Table 3: HDDs categorised by Form Factor – Market Share Worldwide by Value (2010)

	3.5" (%)	2.5" (%)	1.8" (%)
Seagate	[35-45]	[20-30]	[0-5]
Samsung	[5-15]	[5-15]	[5-15]
Western Digital	[30-40]	[20-30]	[0-5]
HGST	[10-20]	[15-25]	[0-5]
Toshiba	[0-5]	[15-25]	[85-95]
Seagate + Samsung (pro-forma)	[45-55]	[30-40]	[5-15]

31. From Table 2 above, if a narrower market definition were adopted based on end-use, the Transaction would only affect the market for Mobile and Desktop HDDs (as Samsung has a negligible presence in the Consumer Electronics and Enterprise segment).
32. From Table 3 above, if a narrower market definition were adopted based on form factor, the Transaction would only affect the markets for 3.5" and 2.5" HDDs as Seagate does not manufacture 1.8" HDDs.

(ii) Barriers to entry and expansion

33. New entry and the threat of entry can represent important competitive constraints on the behaviour of the merged entity. For new entry (actual or threatened) to be considered a sufficient competitive constraint on the merged entity it must be timely, likely and sufficient in scope⁵⁰.
34. The Parties submitted that there are a number of potential new entrants to the market - current suppliers of HDD components, contract manufacturers and previous manufacturers of HDDs (e.g. IBM) can easily commence supply of HDDs in the short term given their familiarity with the industry, significant resources and ready access to inputs (as well as necessary intellectual property)⁵¹. Current suppliers of HDDs can also easily begin to supply HDD products they are not currently active in⁵². With respect to expansion, the Parties submitted that there are no capacity constraints in the industry: HDD manufacturers can quickly expand or contract capacity according to their predictions of demand at relatively low cost⁵³. There are also no capacity constraints on inputs to HDDs⁵⁴.
35. The Parties' view is supported by competitors [X] and [X], who submitted that there are no material legal or regulatory barriers to entry, and many ways for a third-party to enter the market (e.g. by purchasing components from vendors or leveraging existing patents to cross-license with HDD manufacturers)⁵⁵. These competitors also agreed that production capacity can be increased rapidly⁵⁶. The third competitor [X] on the other hand, noted that barriers to entry include the high capital expenditure, intellectual property rights and the low margins⁵⁷.
36. However, the customers held a different view. Most felt that market entry is difficult and unlikely to occur, due to the heavy investment required for R&D and manufacturing, complexity of the product, low margins and the need for market acceptance⁵⁸. Many of the customers expressed that they would not be willing to sponsor a new entrant⁵⁹.

⁵⁰ CCS *Guidelines on Substantive Assessment of Mergers*, paragraphs 7.3 -7.11.

⁵¹ Form M1, paragraph 3.2.17(e).

⁵² Form M1, paragraph 3.2.17(e).

⁵³ Form M1, paragraph 3.2.17(b).

⁵⁴ Form M1, paragraph 3.2.17(b).

⁵⁵ Response from [X] and [X] to Question 26 of CCS Questionnaire to competitors.

⁵⁶ Response from [X] and [X] to Question 25 of CCS Questionnaire to competitors.

⁵⁷ Response from [X] to Question 26 of CCS Questionnaire to competitors.

⁵⁸ Response from [X] to Question 18 of CCS Questionnaire to customers.

⁵⁹ Response from [X] to Question 10 of CCS Questionnaire to customers.

37. Overall, based on the feedback received, CCS is of the view that entry into the HDD market from companies currently not producing any HDDs appears to be unlikely. Neither the industry players nor CCS is aware of any potential new entrant to the market. Nonetheless, CCS notes that if low margin is a key barrier to entry to the HDD market, any attempt by the merger parties or their competitors to exploit the reduction in rivalry flowing from the merger which results in higher prices would invite new entry into the HDD market.
38. In any case, it could be possible for existing players to expand production or begin supplying HDD products that they are not currently active in given their familiarity with the industry and ready access to inputs. For example, Seagate, Samsung and Western Digital entered the Mobile 2.5” form factor segment in 2004 to 2005 and since then, have expanded their business in that segment⁶⁰. In this respect, it may be possible for other competitors in the market to commence or expand production of HDDs to deter or defeat any attempt by the merger parties to exploit the reduction in rivalry flowing from the merger.

(iii) Countervailing buyer power

39. The Parties submitted that HDD customers, which include OEMs, distributors and retailers, have significant countervailing buyer power. In particular, OEM customers (who make up a significant percentage of the Parties’ sales globally) are sophisticated purchasers who source from more than one supplier under short term contracts. Bilateral negotiations are conducted simultaneously with competing qualified suppliers to achieve the best price, and switching costs for OEMs are extremely low. There is generally no brand loyalty and OEMs can, and do, switch a proportion of their HDD purchases on a quarterly basis⁶¹. For the independent distributors, the Parties submitted that although the distributors are provided with list prices by the HDD suppliers, they are nevertheless in a strong position to negotiate volume and other discounts⁶². Distributors also conduct simultaneous bilateral negotiations with competing HDD suppliers, and typically engage in multi-sourcing⁶³. Retailers tend to be large customers able to exercise buyer power, demonstrated through their ability to request additional marketing support from HDD suppliers (in addition to volume discounts)⁶⁴.

⁶⁰ Response from [X] and [X] to Question 27 of CCS Questionnaire to competitors.

⁶¹ Form M1, paragraph 3.2.17(a).

⁶² Parties’ Response dated 16 August 2011, paragraph 3.2.1.

⁶³ Parties’ Response dated 16 August 2011, paragraph 3.2.3.

⁶⁴ Parties’ Response dated 16 August 2011, paragraph 3.2.4.

40. Even if the OEMs have strong countervailing buyer, CCS notes the Parties' submission that [X]. Instead, the Parties' customers in Singapore [X]. CCS' inquiries with several OEMs confirm that most of them conduct negotiations on a global level and do not consider themselves local customers⁶⁵. The OEMs surveyed do not order significant numbers of HDDs from Singapore, nor do they have significant numbers of HDDs delivered to Singapore⁶⁶; some do not do so at all. As such, in assessing the strength of countervailing buyer power, CCS has focused on the views from the independent distributors in Singapore.
41. CCS' inquiries with the independent distributors in Singapore suggest that their bargaining power is relatively weak, given their lower purchase volumes⁶⁷. Several of these customers expressed generally that their bargaining position would be weakened as a result of the Transaction, as there would be fewer suppliers in the market from whom they can purchase or threaten to switch to. Nonetheless, all the independent distributors who responded confirmed that they do not have any exclusive contracts with the HDD suppliers (although some have may have volunteered to contract with only one HDD supplier to minimise conflict of interest)⁶⁸. Therefore, they would be able to switch among competing HDD suppliers or negotiate with competing suppliers for better terms. For example, one distributor customer noted that although its bargaining power was relatively weak when compared to the key PC vendors and ODMs because of its lower purchase volume, it may still be able to negotiate among competing HDD suppliers on pricing on a transaction basis⁶⁹.
42. Furthermore, according to the Parties' submission, [X]⁷⁰. As such, the bargaining power of customers in Singapore would not change significantly as a result of the Transaction.

VII. Competition Assessment

(a) Non-coordinated effects

43. Non-coordinated effects may arise where, as a result of the Transaction, the merged entity finds it profitable to raise prices (or reduce output or quality)

⁶⁵ Submitted by all the OEMs who responded to CCS' Phase 2 questionnaires, namely: [X].

⁶⁶ Namely [X]. As for the other OEMs, [X].

⁶⁷ For example, [X]'s Phase 2 response.

⁶⁸ Phase 2 response from [X].

⁶⁹ Phase 2 response from [X].

⁷⁰ Based on their submission (Responses dated 16 August 2011, Table 1, Responses dated 15 July 2011, Second Request for Information), the Parties [X].

because of the loss of competition between the merged entities⁷¹. CCS is of the view that non-coordinated effects are unlikely to arise in the relevant market in Singapore as a result of the Transaction.

44. Samsung has a relatively small share of the HDD market as a whole. In particular sub-segments (e.g. Enterprise), the Parties' activities do not overlap so there would be no lessening of competition in these sub-segments. CCS' market inquiries revealed that most of the customers do not consider Seagate and Samsung to be the closest competitors to each other; instead, most considered Western Digital to be Seagate's closest competitor and Toshiba to be Samsung's closest competitor.
45. Moreover, CCS' market inquiry confirms that there is spare capacity in the hands of the Parties' competitors, which would allow them to expand to supply customers in the event that the merged entity reduces output or increases prices. Based on feedback from competitors Western Digital, HGST and Toshiba, they each have excess capacity of about [X%]⁷². One of them added that utilisation rates may understate the total available excess capacity in existing facilities since most suppliers will engage in a continuous optimisation of their capacity, and that production capacity can be added rapidly if required⁷³.
46. It can therefore be concluded that the Transaction does not raise any competition concerns as a result of non-coordinated horizontal effects.

(b) Coordinated effects

47. A merger may also lessen competition substantially by increasing the possibility that, post-merger, firms in the same market may coordinate their behaviour to raise prices, or reduce quality or output. Given certain market conditions, and without any express agreement, tacit collusion may arise merely from an understanding that it will be in the firms' mutual interests to coordinate their decisions. Coordinated effects may also arise where a merger reduces competitive constraints in a market, thus increasing the probability that competitors will collude or strengthen a tendency to do so⁷⁴.

⁷¹ Paragraph 6.3 of *CCS Guidelines on the Substantive Assessment of Mergers*.

⁷² Response from Western Digital, HGST and Toshiba to Question 25 of CCS Questionnaire to competitors.

⁷³ Response from [X] to Question 25 of CCS Questionnaire to competitors.

⁷⁴ Paragraph 6.7 of *CCS Guidelines on Substantive Assessment of Mergers*.

48. In light of the relatively high concentration levels in the industry, CCS also assessed whether the Transaction could raise any competition concerns due to coordinated effects.
49. According to the Parties' submission, any attempted coordination post-merger would not be feasible for the following reasons⁷⁵:
- (i) The innovative nature of the HDD market, which would destabilise any attempt to coordinate, as well as the short time between innovation cycles and benefits of being first to market, which undermines any incentive to do so;
 - (ii) The asymmetry of market shares, which removes incentive for HGST to participate in any coordination and inability of Seagate or Western Digital to punish HGST if it deviated from the status quo;
 - (iii) The significant buyer power of OEMs which could disrupt attempted coordination, by switching suppliers and/or facilitating entry by Toshiba; and
 - (iv) The need for granular communication to facilitate coordination on output, given the differences in margins between HDD types, ease of supply-side switching and ability to add capacity rapidly.
50. CCS' inquiry broadly confirmed all of the above arguments, which would reduce the firms' incentives to maintain coordinated behaviour and render it difficult for them to sustain any coordinated behaviour, even if they were able to align their behaviour in the market. Although the Transaction would reduce the number of market participants, this fact alone does not mean that coordination will be more likely or more successful.
51. On this basis, CCS concludes that the Transaction does not raise concerns in terms of coordinated effects on competition.

(c) Feedback from Customers in Singapore on Competition Concerns

52. As mentioned above, CCS had focused on the views from the independent distributors in Singapore in its assessment, given that the OEMs do not order significant numbers of HDDs from Singapore nor have significant numbers of HDDs delivered to Singapore. The independent distributors are also likely to have relatively weak bargaining power given their lower purchase volumes.

⁷⁵ Form M2, paragraph 5.2.4(a).

53. In this context, none of the independent distributors expressed competition concerns regarding the Transaction. Neither did they express concern about collusion in the market post-Transaction⁷⁶.

(d) Efficiencies

54. The Parties submitted that the Transaction will allow Seagate to [X]⁷⁷. However, the Parties did not provide evidence or documentation in support of these views. As such, CCS did not take the alleged efficiencies into account in its analysis of this Transaction, and there was, in any case, no need to do so given the CCS' conclusions.

VIII. Ancillary Restrictions

55. The Parties have notified the following ancillary restrictions entered into pursuant to the Transaction⁷⁸:

- (i) [X].
- (ii) [X].

(i) The Parties' submissions

56. The Parties submitted that the [X] is necessary for the implementation of the notified transaction as it is necessary to preserve the value of the assets being acquired by the transaction⁷⁹. The Parties made subsequent representations to CCS⁸⁰ [X].

57. The Parties also submitted that the [X] is necessary because [X]⁸¹.

(ii) CCS' assessment

58. CCS notes that restrictions that are directly related and necessary to the implementation of a transaction fall within the exclusion in paragraph 10 of

⁷⁶ [X] responded in Phase 2 that they were not concerned that the remaining HDD manufacturers are more likely to coordinate their behaviour post-transactions. [X] replied that collusion might occur, but it did not elaborate further.

⁷⁷ Form M1, paragraph 3.2.2.

⁷⁸ Form M1, paragraph 10.1.1.

⁷⁹ Form M1, paragraph 10.1.2.

⁸⁰ Response dated 25 October 2011.

⁸¹ Form M1, paragraph 10.1.3.

the Third Schedule of the Act. CCS' *Guidelines on the Substantive Assessment of Mergers* state that [X]⁸². [X]⁸³.

59. CCS acknowledges that [X] is directly related to the notified transaction and is necessary to the implementation of the transaction.
60. CCS is of the view that [X] is necessary to the implementation of the notified transaction. CCS also notes that [X]⁸⁴. Therefore, CCS is satisfied that the [X] falls under the exclusion in paragraph 10 of the Third Schedule of the Act.

IX. Conclusion

61. For the reasons above and based on the information available, CCS assesses that the Transaction, if carried into effect, would not give rise to a substantial lessening of competition of the market in Singapore, and accordingly would not infringe the section 54 prohibition. In accordance with section 57(7) of the Act, this decision shall be valid for a period of one year from the date of this decision.



Yena Lim
Chief Executive
Competition Commission of Singapore

⁸² [X] of *CCS Guidelines on the Substantive Assessment of Mergers*.

⁸³ [X] of *CCS Guidelines on the Substantive Assessment of Mergers*.

⁸⁴ Commission Notice on restrictions directly related and necessary to concentrations *OJ C56, 5.3.2005, p. 24 – 31*, recital 33.