

# SK Hynix

(000660 KS)

## Positive factors emerging

**Buy**  
(Maintain)

TP: W120,000  
Upside: 32.7%

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### Key changes/developments

#### 1) Earlier-than-expected supply/demand normalization and sharp graphics DRAM pickup

- DRAM and NAND: TrendForce forecasts excess demand to begin to increase in 3Q23 amid output cuts.
- The market intelligence firm raised its DRAM bit demand growth estimate for 2023 by 0.8%p (lifting its forecasts across all applications except for servers).
- Excess demand should increase the most in the graphics DRAM segment, where SK Hynix holds a competitive edge.

#### 2) SK Hynix's aggressive efforts to push out shipments and solid DDR5 prices

- According to DRAMeXchange, SK Hynix's shipments of DDR4/DDR3 have increased sharply.
- We may revisit our 2Q23 DRAM bit shipment growth estimate (+23% currently).
- Higher-than-expected DDR5 sales will likely mitigate ASP declines arising from aggressive shipments.

#### 3) Implications of potential Western Digital-Kioxia merger

- In the case of SK Hynix's acquisition of Intel's NAND arm (Solidigm), post-deal market share gains were marginal because the two businesses operated mostly in different segments (limiting synergies).
- However, if the merger between Western Digital and Kioxia is completed, sales network integration is likely to result in greater influence in key segments.
- Potential valuation gains on SK Hynix's Kioxia holdings could provide upside to the Korean chipmaker's BPS.

### Recommendation

#### Favorable environment for SK Hynix despite tough market; time to overweight the stock

- We see volume growth outweighing ASP declines in 2Q23, with losses slightly narrowing QoQ to W3tr.
- We also estimate inventory valuation losses will fall sharply to W0.2tr from 2Q23, with the firm aggressively pushing out shipments.
- We believe that downward earnings revisions have come to an end and expect write-backs of inventory valuation losses to have a positive impact down the road.
- We maintain our Buy rating and target price of W120,000, which is based on 1.5x our 2023F BPS of W81,822. As mentioned above, upward revisions to Kioxia's valuation could push up BPS estimates for SK Hynix.

### Key data



Current price (5/16/23, W)	90,400	Market cap (Wbn)	65,811
OP (23F, Wbn)	-10,164	Shares outstanding (mn)	728
Consensus OP (23F, Wbn)	-10,546	Free float (%)	73.9
EPS growth (23F, %)	-	Foreign ownership (%)	49.8
P/E (23F, x)	-	Beta (12M)	1.02
Market P/E (23F, x)	15.2	52-week low (W)	75,000
KOSPI	2,480.24	52-week high (W)	113,500

### Share performance

(%)	1M	6M	12M
Absolute	1.2	-1.2	-18.2
Relative	5.0	-1.3	-14.4

### Earnings and valuation metrics

(Dec.)	2019	2020	2021	2022	2023F	2024F
Revenue (Wbn)	26,991	31,900	42,998	44,622	23,010	36,188
OP (Wbn)	2,719	5,013	12,410	6,809	-10,164	4,326
OP margin (%)	10.1	15.7	28.9	15.3	-44.2	12.0
NP (Wbn)	2,006	4,755	9,602	2,230	-7,969	2,797
EPS (W)	2,755	6,532	13,190	3,063	-10,946	3,843
ROE (%)	4.2	9.5	16.8	3.6	-13.2	4.8
P/E (x)	34.2	18.1	9.9	24.5	-	23.5
P/B (x)	1.4	1.6	1.5	0.8	1.1	1.1
Div. yield (%)	1.1	1.0	1.2	1.6	1.3	1.3

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent

Source: Company data, Mirae Asset Securities Research estimates

## 1) Earlier-than-expected supply/demand normalization and sharp graphics DRAM pickup

Key takeaways from TrendForce's May memory chip report/forecast release include the following: 1) both DRAM and NAND should see an increase in excess demand starting in 3Q23; 2) the firm raised its DRAM bit demand growth estimate for 2023; and 3) graphics DRAM saw the largest increase in excess demand estimates among DRAM applications.

### Both DRAM and NAND should see increasing excess demand starting in 3Q23

For the full year, TrendForce revised its DRAM sufficiency ratio forecast from 0.9% to -1.0% and its NAND sufficiency ratio forecast from 3.0% to -0.5%. In other words, the market intelligence firm expects an end to the memory supply glut by the end of the year.

For the NAND segment, TrendForce trimmed its 2023 bit demand growth forecast by -1.2%p but slashed its bit production growth forecast by -4.9%p. Samsung Electronics' (SEC) estimated 11% cut to 2Q23 wafer input (from 480,000/month to 425,000/month) was likely reflected. We do not view these as aggressive assumptions.

### TrendForce raises DRAM bit demand growth estimate

2023F DRAM bit production growth was lowered by 1%p, but bit demand growth was raised by 0.8%p. By segment, bit demand growth forecasts were raised across all applications (PCs, mobile devices, graphics, etc.) except for servers.

The outlook for PC DRAM production volume was raised by 1%p, likely due to Taiwanese PC ODMs' expectations for a recovery in 2Q23.

For the mobile segment, higher DRAM content per device was likely responsible for the upward revision to the bit demand growth forecast, considering that Qualcomm and Apple recently announced conservative market forecasts.

Meanwhile, the outlook for server DRAM was trimmed. While hyperscalers did not cut their data center capex, it is likely that GPUs (for AI servers) will account for a higher proportion of investments. However, forecasts for excess demand were raised slightly due to a decrease in output.

### Upward revision to graphics DRAM bit demand growth forecast

The most notable change in TrendForce's 2023 supply/demand forecasts came in the graphics DRAM segment, where the sufficiency ratio forecast was revised from -1.8% to -4.2%. We believe bit demand growth increased thanks to a marked rise in demand for AI-use high-bandwidth memory (HBM), while bit production growth dropped due to an output cut in response to falling consumer-use graphics DDR (GDDR) demand.

All in all, we think the normalization of supply/demand is picking up speed across the memory market. We note that graphics DRAM appears to be facing the tightest supply conditions; this is favorable for SK Hynix, which will likely see HBM-oriented graphics DRAM market share gains (high-20% level in 2022 → around 30% in 2023). Although graphics DRAM accounts for only 5% of total DRAM bit demand, we believe the company's likely market share expansion in the segment is noteworthy.

**Figure 1. TrendForce: DRAM supply/demand outlook (May; revised)** (2Gb equiv., mn)

	1Q22	2Q22	3Q22	4Q22	2022	YoY	1Q23	2Q23F	3Q23F	4Q23F	2023F	YoY
Total DRAM supply	24,960	25,706	26,647	27,438	104,751	18.71%	27,468	25,774	24,502	26,618	104,362	-0.37%
Total DRAM demand	23,826	24,195	24,512	24,532	97,065	11.86%	24,324	24,675	26,605	29,816	105,419	8.61%
Sufficiency ratio	4.76%	6.25%	8.71%	11.85%	7.92%		12.93%	4.45%	-7.90%	-10.72%	-1.00%	
Total PC supply	3,394	3,442	3,517	3,486	13,838	18.94%	3,381	3,219	3,062	3,293	12,955	-6.38%
Total PC demand	3,196	3,208	3,084	2,937	12,425	7.43%	2,888	2,925	3,163	3,498	12,474	0.39%
Sufficiency ratio	6.19%	7.29%	14.03%	18.67%	11.37%		17.06%	10.07%	-3.21%	-5.84%	3.86%	
Total server supply	8,559	8,857	9,300	9,886	36,602	22.79%	10	9,585	9,161	10	38,980	6.50%
Total server demand	8,221	8,503	8,880	9,298	34,901	18.18%	8,976	9,108	9,993	11,481	39,559	13.35%
Sufficiency ratio	4.11%	4.16%	4.74%	6.33%	4.87%		12.79%	5.24%	-8.33%	-11.95%	-1.46%	
Total mobile supply	9,603	9,906	10,310	10,468	40,286	15.26%	10,290	9,502	8,908	9,567	38,268	-5.01%
Total mobile demand	9,085	9,107	9,265	9,050	36,507	8.43%	9	9,182	9,828	10,821	38,802	6.29%
Sufficiency ratio	5.70%	8.77%	11.28%	15.67%	10.35%		14.72%	3.49%	-9.36%	-11.59%	-1.38%	
Total graphics supply	1,346	1,379	1,411	1,462	5,598	18.68%	1,445	1,343	1	1,345	5,385	-3.80%
Total graphics demand	1,332	1,328	1,318	1,287	5,265	9.50%	1,383	1,337	1,372	1,529	5,621	6.77%
Sufficiency ratio	1.03%	3.83%	7.03%	13.65%	6.32%		4.49%	0.39%	-8.70%	-12.05%	-4.20%	

Source: TrendForce, Mirae Asset Securities Research

**Figure 2. TrendForce: DRAM supply/demand outlook (April; previous)** (2Gb equiv., mn)

	1Q22	2Q22	3Q22	4Q22	2022	YoY	1Q23	2Q23F	3Q23F	4Q23F	2023F	YoY
Total DRAM supply	24,960	25,706	26,647	27,438	104,751	18.71%	27,471	26,196	25,274	26,613	105,554	0.77%
Total DRAM demand	23,826	24,195	24,512	24,532	97,065	11.86%	24,120	24,587	26,549	29,365	104,622	7.79%
Sufficiency ratio	4.76%	6.25%	8.71%	11.85%	7.92%		13.89%	6.54%	-4.80%	-9.37%	0.89%	
Total PC supply	3,394	3,442	3,517	3,486	13,838	18.94%	3,381	3,263	3,133	3,271	13,048	-5.71%
Total PC demand	3,196	3,208	3,084	2,937	12,425	7.43%	2,868	2,894	3,165	3,461	12,388	-0.30%
Sufficiency ratio	6.19%	7.29%	14.03%	18.67%	11.37%		17.89%	12.76%	-1.01%	-5.49%	5.33%	
Total server supply	8,559	8,857	9,300	9,886	36,602	22.79%	10,124	9,756	9,494	10,153	39,527	7.99%
Total server demand	8,221	8,503	8,880	9,298	34,901	18.18%	8,976	9,284	10,089	11,533	39,882	14.27%
Sufficiency ratio	4.11%	4.16%	4.74%	6.33%	4.87%		12.79%	5.08%	-5.90%	-11.96%	-0.89%	
Total mobile supply	9,603	9,906	10,310	10,468	40,286	15.26%	10,290	9,666	9,213	9,568	38,737	-3.85%
Total mobile demand	9,085	9,107	9,265	9,050	36,507	8.43%	8,827	8,925	9,662	10,451	37,865	3.72%
Sufficiency ratio	5.70%	8.77%	11.28%	15.67%	10.35%		16.58%	8.31%	-4.65%	-8.45%	2.30%	
Total graphics supply	1,346	1,379	1,411	1,462	5,598	18.68%	1,445	1,366	1,299	1,351	5,461	-2.45%
Total graphics demand	1,332	1,328	1,318	1,287	5,265	9.50%	1,343	1,347	1,385	1,485	5,560	5.60%
Sufficiency ratio	1.03%	3.83%	7.03%	13.65%	6.32%		7.64%	1.41%	-6.25%	-9.03%	-1.78%	

Source: TrendForce, Mirae Asset Securities Research

**Figure 3. TrendForce: NAND supply/demand outlook (May; revised)**

	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23F	3Q23F	4Q23F	2021	2022	2023F	
Global NAND flash bit supply (8Gb equiv., mn)	162,226	177,614	197,524	204,975	200,156	198,224	202,639	204,118	571,835	742,338	805,136	
Supply QoQ (%)		-0.5%	9.5%	11.2%	3.8%	-2.4%	-1.0%	2.2%	0.7%	39.4%	29.8%	8.5%
Global NAND flash bit demand (8Gb equiv., mn)	156,061	167,934	174,736	177,702	171,213	184,864	217,121	236,065	567,388	676,433	809,263	
Demand QoQ (%)		-2.7%	7.6%	4.1%	1.7%	-3.7%	8.0%	17.4%	8.7%	39.7%	19.2%	19.6%
Sufficiency ratio (%)		3.9%	5.8%	13.0%	15.3%	16.9%	7.2%	-6.7%	-13.5%	0.8%	9.7%	-0.5%

Source: TrendForce, Mirae Asset Securities Research

**Figure 4. TrendForce: NAND supply/demand outlook (April; previous)**

	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23F	3Q23F	4Q23F	2021	2022	2023F	
Global NAND flash bit supply (8Gb equiv., mn)	162,226	177,614	197,524	204,975	200,156	201,937	217,293	222,648	571,835	742,338	842,033	
Supply QoQ (%)		-0.5%	9.5%	11.2%	3.8%	-2.4%	0.9%	7.6%	2.5%	39.4%	29.8%	13.4%
Global NAND flash bit demand (8Gb equiv., mn)	156,061	167,934	174,736	177,702	170,616	187,457	219,730	239,437	567,388	676,433	817,239	
Demand QoQ (%)		-2.7%	7.6%	4.1%	1.7%	-4.0%	9.9%	17.2%	9.0%	39.7%	19.2%	20.8%
Sufficiency ratio (%)		3.9%	5.8%	13.0%	15.3%	17.3%	7.7%	-1.1%	-7.0%	0.8%	9.7%	3.0%

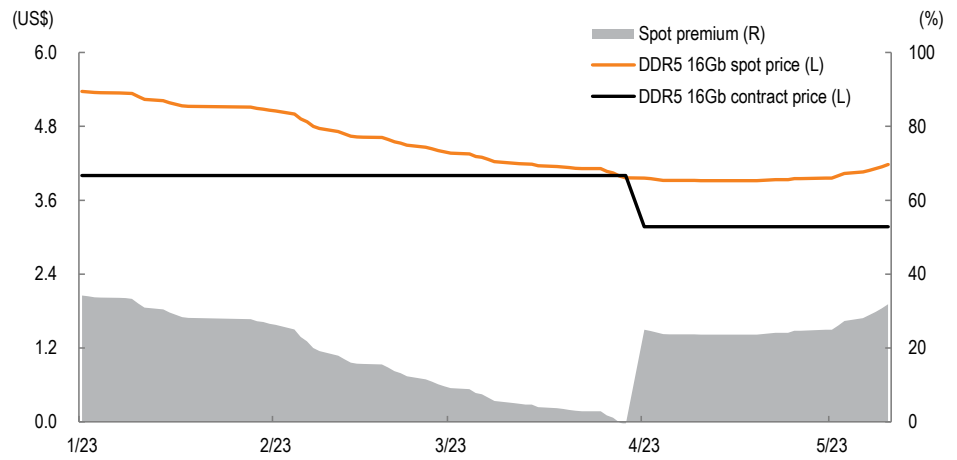
Source: TrendForce, Mirae Asset Securities Research

## 2) SK Hynix's aggressive efforts to push out shipments and solid DDR5 prices

According to DRAMeXchange, SK Hynix's shipments of DDR4/DDR3 have increased sharply, indicating that the firm has taken an aggressive approach to inventory reduction. As a result, spot prices of DDR4/DDR3, which had somewhat stabilized on SEC's production cut announcement, have declined modestly again. Against this backdrop, we may revisit our 2Q23 DRAM bit shipment growth estimate (+23% currently).

However, we believe that price declines arising from shipment growth will be modest, as our channel checks show that sales of DDR5 are currently exceeding expectations. In addition, although PC DDR5 contract prices are set to drop by about 15% in 2Q23, they will likely stabilize relatively quickly, considering the high spot market premium.

**Figure 5. DDR5 contract and spot prices**



Source: DRAMeXchange, Mirae Asset Securities Research estimates

### 3) Implications of potential Western Digital-Kioxia merger

Foreign media outlets reported on May 16 that merger talks between Western Digital and Kioxia have been accelerating.

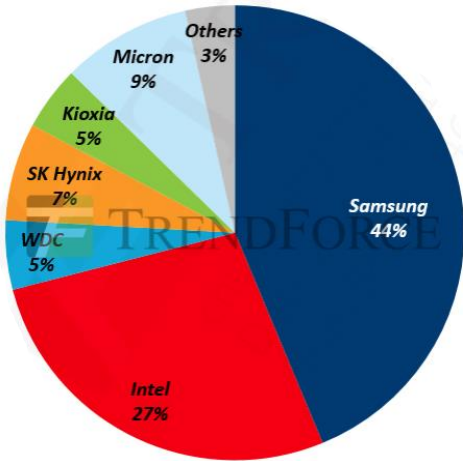
Notably, we believe that the potential merger differs significantly from SK Hynix’s acquisition of Intel’s NAND unit (Solidigm). Indeed, unlike Western Digital and Kioxia, SK Hynix (client/mobile SSDs) and Intel (enterprise SSDs) specialized in different product segments, meaning that their merger did not lead to a marked rise in combined market share. While their overall NAND market share levels were similar at end-1Q20 (when the deal was announced), SK Hynix (7%) held a significantly smaller share of the enterprise SSD market compared to Intel (27%).

Considering that Western Digital and Kioxia already run a joint venture fab together in Japan, we do not believe that a merger will lead to a meaningful increase in overall production capacity. However, given that the two companies largely focus on the same applications, sales network integration should result in increased influence/power in certain segments.

In 2018, SK Hynix invested roughly W4tr in Kioxia through its participation in a Bain Capital-led consortium (limited partnership interest and convertible bonds). At end-2022, SK Hynix booked a W600bn valuation loss on its Kioxia holdings to reflect FX movements and market conditions.

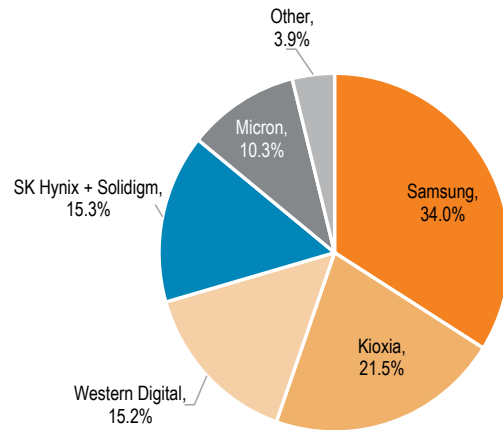
As the potential Western Digital-Kioxia merger is subject to approvals by the US, Japan, China, and other countries, visibility on the deal’s prospects and SK Hynix’s actual investment returns remains low. However, the merger process itself and expectations for synergies may lead to an increase in Kioxia’s value and subsequent upside to SK Hynix’s BPS.

**Figure 6. Enterprise SSD market breakdown prior to SK Hynix-Intel deal**



Source: TrendForce, Mirae Asset Securities Research

**Figure 7. Current NAND market breakdown**



Source: TrendForce, Mirae Asset Securities Research

**Table 1. Quarterly and annual earnings**

	1Q23P	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F	2021	2022	2023F	2024F
<b>Revenue (Wbn)</b>	<b>5,088</b>	<b>5,327</b>	<b>6,003</b>	<b>6,591</b>	<b>6,498</b>	<b>8,131</b>	<b>10,276</b>	<b>11,284</b>	<b>42,998</b>	<b>44,622</b>	<b>23,010</b>	<b>36,188</b>
<b>QoQ/YoY (%)</b>	<b>-33.7</b>	<b>4.7</b>	<b>12.7</b>	<b>9.8</b>	<b>-1.4</b>	<b>25.1</b>	<b>26.4</b>	<b>9.8</b>	<b>34.8</b>	<b>3.8</b>	<b>-48.4</b>	<b>57.3</b>
DRAM	2,758	2,904	3,368	3,767	3,760	5,019	6,600	7,035	30,881	28,372	12,797	22,448
NAND	1,748	1,813	1,993	2,151	2,132	2,475	3,007	3,547	10,345	13,729	7,705	11,178
<b>OP (Wbn)</b>	<b>-3,402</b>	<b>-2,986</b>	<b>-2,545</b>	<b>-1,231</b>	<b>-400</b>	<b>450</b>	<b>1,787</b>	<b>2,488</b>	<b>12,410</b>	<b>6,809</b>	<b>-10,164</b>	<b>4,326</b>
<b>QoQ/YoY (%)</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>TTB</b>	<b>297.2</b>	<b>39.2</b>	<b>148</b>	<b>-45</b>	<b>TTR</b>	<b>TTB</b>
DRAM	-1,517	-1,280	-964	-496	-625	743	2,233	2,609	12,545	9,469	-4,257	4,995
NAND	-1,923	-1,685	-1,543	-1,465	-1,389	-801	-381	159	125	227	-6,616	-795
<b>OP margin (%)</b>	<b>-66.9</b>	<b>-56.0</b>	<b>-42.4</b>	<b>-18.7</b>	<b>-6.2</b>	<b>5.5</b>	<b>17.4</b>	<b>22.0</b>	<b>28.9</b>	<b>15.3</b>	<b>-44.2</b>	<b>12.0</b>
DRAM	-55.0	-44.1	-28.6	-13.2	-16.6	14.8	33.8	37.1	40.6	33.4	-33.3	22.3
NAND	-110.0	-93.0	-77.4	-68.1	-65.1	-32.4	-12.7	4.5	1.2	1.7	-85.9	-7.1
<b>EBITDA (Wbn)</b>	<b>155</b>	<b>649</b>	<b>967</b>	<b>2,177</b>	<b>2,897</b>	<b>3,813</b>	<b>5,196</b>	<b>5,885</b>	<b>23,067</b>	<b>20,961</b>	<b>3,948</b>	<b>17,791</b>
<b>QoQ/YoY (%)</b>	<b>-91.4</b>	<b>318.5</b>	<b>48.9</b>	<b>125.3</b>	<b>33.0</b>	<b>31.6</b>	<b>36.3</b>	<b>13.3</b>	<b>41.8</b>	<b>-9.1</b>	<b>-81.2</b>	<b>350.6</b>
<b>Pretax profit (Wbn)</b>	<b>-3,525</b>	<b>-3,118</b>	<b>-2,680</b>	<b>-1,378</b>	<b>-541</b>	<b>311</b>	<b>1,630</b>	<b>2,316</b>	<b>13,416</b>	<b>4,003</b>	<b>-10,727</b>	<b>3,716</b>
<b>QoQ/YoY (%)</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>TTB</b>	<b>424.6</b>	<b>42.1</b>	<b>115.1</b>	<b>-70.2</b>	<b>TTR</b>	<b>TTB</b>
<b>NP (Wbn)</b>	<b>-2,580</b>	<b>-2,308</b>	<b>-1,994</b>	<b>-1,055</b>	<b>-403</b>	<b>233</b>	<b>1,224</b>	<b>1,744</b>	<b>9,602</b>	<b>2,230</b>	<b>-7,969</b>	<b>2,797</b>
<b>QoQ/YoY (%)</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>RR</b>	<b>TTB</b>	<b>426.2</b>	<b>42.5</b>	<b>101.9</b>	<b>-76.8</b>	<b>TTR</b>	<b>TTB</b>

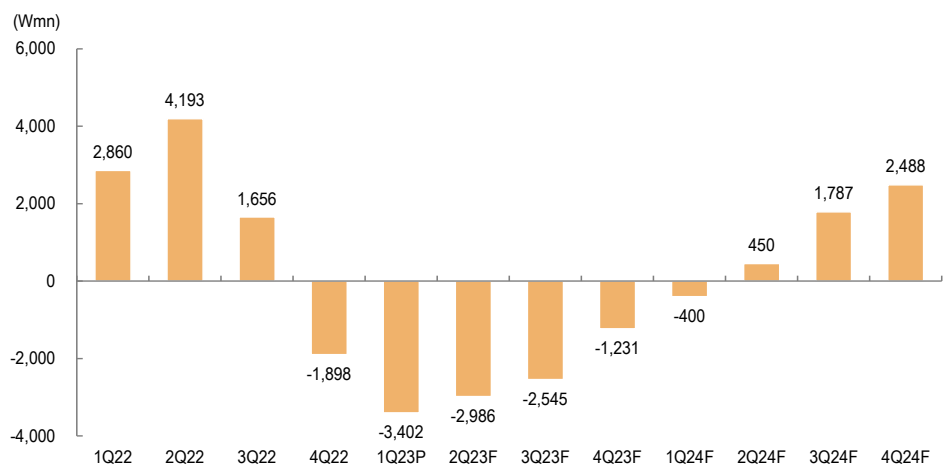
Source: Company data, Mirae Asset Securities Research estimates

**Table 2. Assumptions by product**

	1Q23P	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F	2021	2022	2023F	2024F
<b>DRAM</b>												
Bit shipments (bn Gb)	11,672	14,338	17,508	18,649	16,919	18,824	21,525	21,851	58,461	59,808	62,167	79,118
<b>Bit growth (%)</b>	<b>-21.4</b>	<b>22.8</b>	<b>22.1</b>	<b>6.5</b>	<b>-9.3</b>	<b>11.3</b>	<b>14.3</b>	<b>1.5</b>	<b>20.2</b>	<b>2.3</b>	<b>3.9</b>	<b>27.3</b>
ASP (US\$/Gb)	0.19	0.16	0.15	0.16	0.17	0.21	0.24	0.25	0.46	0.37	0.16	0.22
<b>ASP change (%)</b>	<b>-19.0</b>	<b>-15.0</b>	<b>-5.0</b>	<b>5.0</b>	<b>10.0</b>	<b>20.0</b>	<b>15.0</b>	<b>5.0</b>	<b>14.2</b>	<b>-19.4</b>	<b>-56.8</b>	<b>37.4</b>
<b>NAND</b>												
Bit shipments (bn GB)	31,425	36,582	41,997	45,525	43,589	50,046	56,819	66,739	85,980	145,492	155,529	217,193
<b>Bit growth (%)</b>	<b>-16.0</b>	<b>16.4</b>	<b>14.8</b>	<b>8.4</b>	<b>-4.3</b>	<b>14.8</b>	<b>13.5</b>	<b>17.5</b>	<b>60.4</b>	<b>69.2</b>	<b>6.9</b>	<b>39.6</b>
ASP (US\$/GB)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.10	0.07	0.04	0.04
<b>ASP chg. (%)</b>	<b>-11.2</b>	<b>-11.6</b>	<b>-4.2</b>	<b>-0.5</b>	<b>3.5</b>	<b>1.1</b>	<b>7.0</b>	<b>0.4</b>	<b>-12.5</b>	<b>-29.7</b>	<b>-47.6</b>	<b>3.5</b>

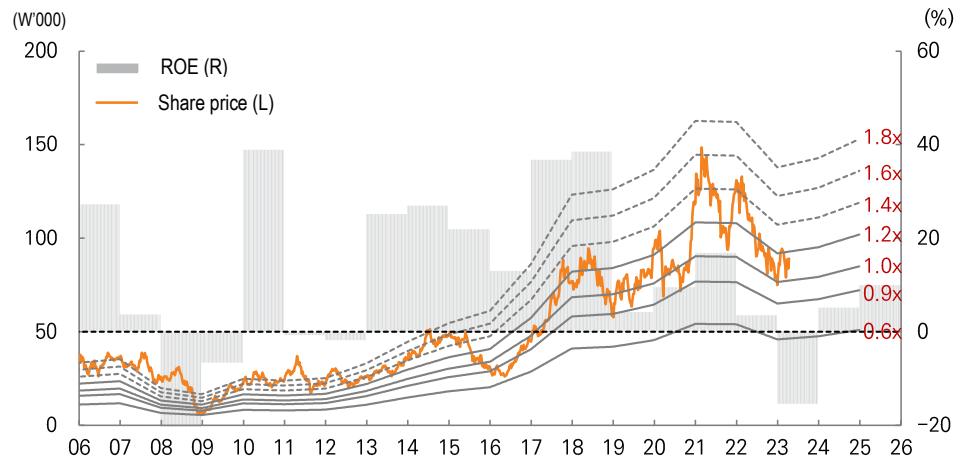
Source: Company data, Mirae Asset Securities Research estimates

**Figure 8. SK Hynix: Quarterly OP trend**



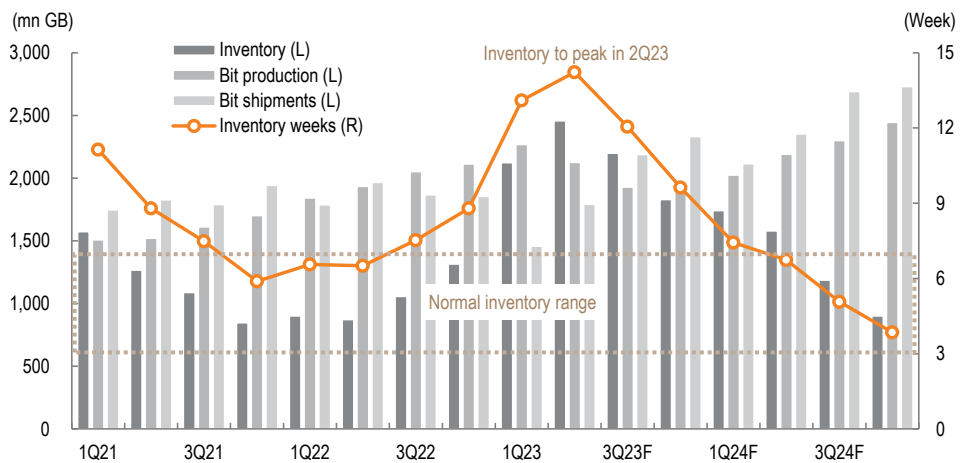
Source: Company data, Mirae Asset Securities Research estimates

**Figure 9. SK Hynix: 12-month forward P/B band chart**



Source: Company data, Mirae Asset Securities Research estimates

**Figure 10. SK Hynix: Outlook for production, shipments, and inventory**



Source: Company data, Mirae Asset Securities Research estimates

## SK Hynix (000660 KS)

## Income statement (summarized)

(Wbn)	2021	2022	2023F	2024F
<b>Revenue</b>	<b>42,998</b>	<b>44,622</b>	<b>23,010</b>	<b>36,188</b>
<b>Cost of revenue</b>	<b>24,046</b>	<b>28,994</b>	<b>26,276</b>	<b>23,533</b>
<b>GP</b>	<b>18,952</b>	<b>15,628</b>	<b>-3,266</b>	<b>12,655</b>
<b>SG&amp;A expenses</b>	<b>6,542</b>	<b>8,818</b>	<b>6,898</b>	<b>8,329</b>
<b>OP (adj.)</b>	<b>12,410</b>	<b>6,809</b>	<b>-10,164</b>	<b>4,326</b>
<b>OP</b>	<b>12,410</b>	<b>6,809</b>	<b>-10,164</b>	<b>4,326</b>
<b>Non-operating profit</b>	<b>1,006</b>	<b>-2,806</b>	<b>-563</b>	<b>-610</b>
Net financial income	-238	-444	-568	-615
Net income from associates	162	131	0	0
Pretax profit	13,416	4,003	-10,727	3,716
Income tax	3,800	1,761	-2,773	923
Profit from continuing operations	9,616	2,242	-7,954	2,792
Profit from discontinued operations	0	0	0	0
<b>NP</b>	<b>9,616</b>	<b>2,242</b>	<b>-7,954</b>	<b>2,792</b>
Attributable to owners	9,602	2,230	-7,969	2,797
Attributable to minority interests	14	12	15	-5
<b>Total comprehensive income</b>	<b>10,688</b>	<b>2,822</b>	<b>-7,954</b>	<b>2,792</b>
Attributable to owners	10,669	2,802	-7,957	2,793
Attributable to minority interests	18	20	3	-1
EBITDA	23,067	20,961	3,948	17,791
FCF	7,311	-4,230	-423	-1,734
EBITDA margin (%)	53.6	47.0	17.2	49.2
OP margin (%)	28.9	15.3	-44.2	12.0
Net margin (%)	22.3	5.0	-34.6	7.7

## Cash flow statement (summarized)

(Wbn)	2021	2022	2023F	2024F
<b>Operating cash flow</b>	<b>19,798</b>	<b>14,781</b>	<b>7,077</b>	<b>12,266</b>
NP	9,616	2,242	-7,954	2,792
Non-cash income/expenses	14,354	19,532	11,614	14,710
Depreciation	9,861	13,372	13,697	13,051
Amortization	796	780	414	414
Other	3,697	5,380	-2,497	1,245
Chg. in working capital	-3,018	-2,690	919	-3,992
Chg. in AR & other receivables	-2,526	3,342	730	-3,172
Chg. in inventory	-697	-6,572	2,206	-9,582
Chg. in AP & other payables	176	141	-308	1,337
Income tax	-1,015	-3,979	2,773	-923
<b>Cash flow from investing activities</b>	<b>-22,392</b>	<b>-17,884</b>	<b>-7,584</b>	<b>-14,805</b>
Chg. in PP&E	-12,407	-18,687	-7,500	-14,000
Chg. in intangible assets	-972	-738	-200	-300
Chg. in financial assets	-389	43	116	-505
Other	-8,624	1,498	0	0
<b>Cash flow from financing activities</b>	<b>4,492</b>	<b>2,822</b>	<b>1,929</b>	<b>-654</b>
Chg. in financial liabilities	6,171	5,642	-40	172
Chg. in equity	191	2	2,794	0
Dividends	-805	-1,681	-826	-826
Other	-1,065	-1,141	1	0
<b>Chg. in cash</b>	<b>2,082</b>	<b>-81</b>	<b>1,613</b>	<b>-4,020</b>
Beginning balance	2,976	5,058	4,977	6,590
Ending balance	5,058	4,977	6,590	2,570

Source: Company data, Mirae Asset Securities Research estimates

## Balance sheet (summarized)

(Wbn)	2021	2022	2023F	2024F
<b>Current assets</b>	<b>26,907</b>	<b>28,733</b>	<b>27,143</b>	<b>37,032</b>
Cash & equivalents	5,058	4,977	6,590	2,570
AR & other receivables	8,385	5,381	4,623	7,914
Inventory	8,950	15,665	13,458	23,040
Other current assets	4,514	2,710	2,472	3,508
<b>Non-current assets</b>	<b>69,439</b>	<b>75,138</b>	<b>68,480</b>	<b>70,385</b>
Investments in associates	1,410	1,353	1,162	1,990
PP&E	53,226	60,229	54,031	54,980
Intangible assets	4,797	3,512	3,298	3,183
<b>Total assets</b>	<b>96,347</b>	<b>103,872</b>	<b>95,623</b>	<b>107,417</b>
<b>Current liabilities</b>	<b>14,735</b>	<b>19,844</b>	<b>18,094</b>	<b>25,692</b>
AP & other payables	5,966	7,632	6,557	11,225
Short-term financial liabilities	3,183	7,705	7,665	7,837
Other current liabilities	5,586	4,507	3,872	6,630
<b>Non-current liabilities</b>	<b>19,420</b>	<b>20,737</b>	<b>20,224</b>	<b>22,454</b>
Long-term financial liabilities	15,971	17,092	17,092	17,092
Other non-current liabilities	3,449	3,645	3,132	5,362
<b>Total liabilities</b>	<b>34,155</b>	<b>40,581</b>	<b>38,318</b>	<b>48,145</b>
<b>Equity attributable to owners</b>	<b>62,157</b>	<b>63,267</b>	<b>57,266</b>	<b>59,238</b>
Capital stock	3,658	3,658	3,817	3,817
Capital surplus	4,335	4,336	6,971	6,971
Retained earnings	55,784	56,685	47,891	49,863
<b>Minority interests</b>	<b>34</b>	<b>24</b>	<b>39</b>	<b>34</b>
<b>Shareholders' equity</b>	<b>62,191</b>	<b>63,291</b>	<b>57,305</b>	<b>59,272</b>

## Key valuation metrics/ratios

	2021	2022	2023F	2024F
P/E (x)	9.9	24.5	-	23.5
P/CF (x)	4.0	2.5	18.0	3.8
P/B (x)	1.5	0.8	1.1	1.1
EV/EBITDA (x)	4.7	3.5	20.9	4.9
EPS (W)	13,190	3,063	-10,946	3,843
CFPS (W)	32,925	29,909	5,027	24,041
BPS (W)	88,543	90,064	81,822	84,531
DPS (W)	1,540	1,200	1,200	1,200
Dividend payout ratio (%)	11.0	36.8	-10.4	29.6
Dividend yield (%)	1.2	1.6	1.3	1.3
Revenue growth (%)	34.8	3.8	-48.4	57.3
EBITDA growth (%)	56.0	-9.1	-81.2	350.6
OP growth (%)	147.6	-45.1	-	-
EPS growth (%)	101.9	-76.8	-	-
AR turnover (x)	6.5	6.6	4.8	6.0
Inventory turnover (x)	5.7	3.6	1.6	2.0
AP turnover (x)	20.0	16.4	12.9	9.2
ROA (%)	11.5	2.2	-8.0	2.8
ROE (%)	16.8	3.6	-13.2	4.8
ROIC (%)	14.9	5.3	-10.3	4.8
Debt-to-equity ratio (%)	54.9	64.1	66.9	81.2
Current ratio (%)	182.6	144.8	150.0	144.1
Net debt-to-equity ratio (%)	21.9	30.6	29.3	34.9
Interest coverage ratio (x)	47.7	12.8	-12.5	5.3

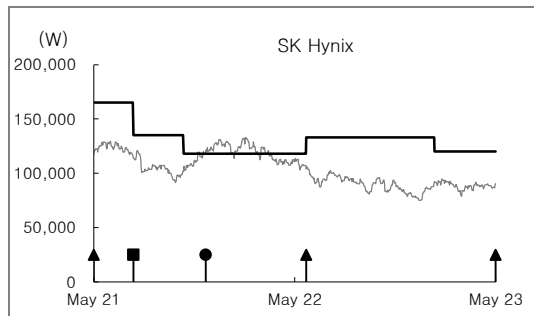


# Appendix 1

## Important disclosures and disclaimers

### Two-year rating and TP history

Company	Date	Rating	TP (₩)
SK Hynix (000660)	01/26/23	Buy	120,000
	06/07/22	Buy	133,000
	12/06/21	Hold	118,000
	10/27/21	Trading Buy	118,000
	07/28/21	Trading Buy	135,000
	03/31/21	Buy	165,000



### Stock ratings

Buy	Expected 12-month performance: +20% or greater
Trading Buy	Expected 12-month performance: +10% to +20%
Hold	Expected 12-month performance: -10% to +10%
Sell	Expected 12-month performance: -10% or worse

### Sector ratings

Overweight	Expected to outperform the market over 12 months
Neutral	Expected to perform in line with the market over 12 months
Underweight	Expected to underperform the market over 12 months

Rating and TP history: Share price (—), TP (—), Not Rated (■), Buy (▲), Trading Buy (■), Hold (●), Sell (◆)

\* Our investment rating is a guide to the expected return of the stock over the next 12 months.

\* Outside of the official ratings of Mirae Asset Securities Co., Ltd., analysts may call trading opportunities should technical or short-term material developments arise.

\* The TP was determined by the research analyst through valuation methods discussed in this report, in part based on estimates of future earnings.

\* TP achievement may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

### Ratings distribution and investment banking services

	Buy	Trading Buy	Hold	Sell
Ratings distribution	85.7%	10.7%	2.9%	0.7%
Investment banking services	87.5%	12.5%	0%	0%

\* Based on recommendations in the last 12-months (as of March 31, 2023)

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