COMPANY UPDATE

2026. 8. 10

Tech Team

Donghwan Oh
Senior Analyst
dh1.oh@samsung.com

Hyerim Yu
Research Associate
hyerim0705.yu@samsung.com

Scan to go to
Research Center report database

Kakao Games (293490)

Losses continue on lack of new releases

- Kakao Games posted a 2Q operating loss of KRW23b due to the absence of new titles and declining revenue from existing games.
- Although new title launch schedules have been delayed, five new titles are planned for release from Oct 2026 through 1Q27.
- Cost efficiency initiatives, including restructuring, are underway, but a turn to profitability is expected only from 2027 onward. Given ongoing uncertainty around new title launches, we recommend waiting for clear evidence of new title success before initiating investment.

AT A GLANCE

HOLD

Target price	KRW9,000	8%
Current price	KRW8,330	
Market cap	KRW889.19b/USD627.91m	
Shares (float)	106,745,265 (60.8%)	
52-week high/low	KRW17,760/KRW6,930	
Avg daily trading value (60-day)	KRW4.4b/ USD3.1m	

ONE-YEAR PERFORMANCE

	1M	6M	12M
Kakao Games (%)	7.1	-45.7	-50.2
Vs Kosdaq (%pts)	11.4	-26.5	-49.8

KEY CHANGES

(KRW)	New	Old	Diff
Recommend.	HOLD	HOLD	
Target price	9,000	10,000	-10.0%
2026E EPS	-920	-1,167	nm
2027E EPS	-3,882	-1960	nm

SAMSUNG vs THE STREET

No of estimates	6
Target price	8,733
Recommendation	3.2

※ Rating: 4 < → BUY, 3 = HOLD, 2 > → SELL

WHAT'S THE STORY?

2Q review—Persistent operating loss amid lack of new titles: Kakao Games reported a 10% q-q decline in sales in 2Q, hit by declining revenue from existing games amid the absence of new titles--eg, PC game revenue fell 20% q-q due to the seasonal downturn of PUBG: Battlegrounds, while mobile game revenue dropped 4% q-q, driven by lower live-service revenue and the transfer of the publishing and service rights of the MMORPG R.O.M to RedLab Games. Combined with rising severance costs from restructuring, the company posted an operating loss of KRW23b in 2Q, extending its streak of operating losses to seven consecutive quarters.

New title launches to start in October: The launch schedule for highly anticipated titles, including Odin: Q, has been further delayed by one to two quarters. However, Kakao Games has confirmed launch dates for The World of Dokkaebi (formerly Project OQ) and Odin: Q in Oct 2026 and Jan 2027, respectively, thus ruling out further delays to these two titles. Although complete elimination of future slippage remains uncertain, if five new titles are successfully launched by 1Q27 as planned, a revenue recovery could materialize starting in 2027.

(Continued on the next page)

SUMMARY 2Q26 RESULTS

(KRWb)	2Q26	Chg (% y-y)	Chg (% q-q)	Diff (%) Samsung	Diff (%) Consensus
Sales	75.0	-35.2	-9.6	-5.2	-3.5
Operating profit	-23.0	nm	nm	nm	nm
Pre-tax profit	-64.5	nm	nm	nm	nm
Net profit	-57.0	nm	nm	nm	nm
Margins (%)					
Operating profit	-30.7				
Pre-tax profit	-86.0				
Net profit	-76.0				

Source: Company data, Fnguide, Samsung Securities estimates

VALUATION SUMMARY

	2025	2026E	2027E
Valuation (x)			
P/E	n/a	n/a	n/a
P/B	1.1	0.9	0.9
EV/EBITDA	200.8	n/a	13.5
Div yield (%)	0.0	0.0	0.0
EPS growth (% y-y)	nm	nm	nm
ROE (%)	-7.9	-11.9	-2.6
Per-share data (KRW)			
EPS	-539	-920	-3,882
BVPS	13,314	9,677	9,433
DPS	0	0	0

Samsung Securities

Restructuring to improve fundamentals: The new management team appointed following the change in the largest shareholder plans to optimize cost structure via structural reforms, rationalization of underperforming projects, expansion of global co-development, and increased outsourcing. Over 100 employees were reduced in 2Q, with additional workforce adjustments planned for 2H. Fixed cost burdens should ease significantly in 2027 once severance payments are fully settled.

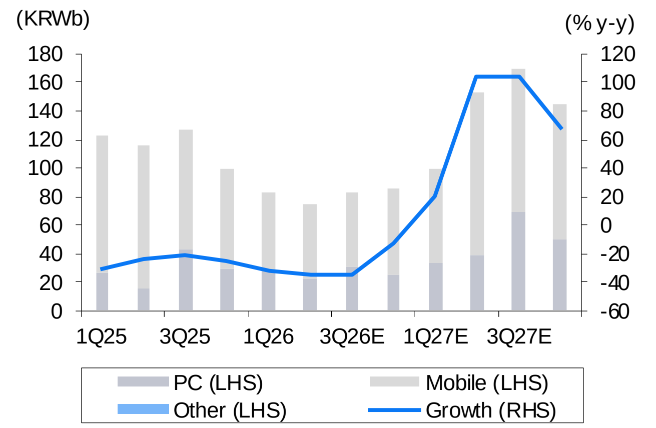
Recommend waiting for clear evidence of new title success before initiating investment: Reflecting delays in new title launches and downward pressure on peer valuations, we cut our target price for Kakao Games by 10% from KRW10,000 to KRW9,000 (using SOTP methodology) and maintain our HOLD rating. While revenue recovery is anticipated from 4Q, profitability is not expected until 2027, after accounting for marketing expenditures. As uncertainty lingers regarding the timing and commercial success of upcoming titles, we recommend waiting for clear evidence of new title success before initiating investment.

2Q26 review

(KRWb)	2Q26			Diff (%)		2Q25	1Q26	Chg	
	Result	Samsung	Consensus	Result	Samsung			(% y-y)	(% q-q)
Sales	**75.0**	**79.1**	**77.8**	**(5.1)**	**(3.5)**	**115.8**	**82.9**	**(35.2)**	**(9.5)**
PC	22.3	27.0		(17.4)		14.8	27.9	50.5	(20.1)
Mobile	52.7	52.1		1.2		101.0	55.0	(47.8)	(4.1)
Operating expenses	**98.0**	**106.8**		**(8.2)**		**124.4**	**108.4**	**(21.2)**	**(9.6)**
Labor costs	45.3	38.7		16.9		43.2	38.7	4.8	17.0
Commission paid	32.1	41.7		(23.2)		57.5	45.9	(44.2)	(30.1)
Advertising expenses	3.5	7.1		(50.6)		8.5	4.6	(58.7)	(23.5)
Other	17.2	19.2		(10.5)		15.2	19.2	13.0	(10.5)
Operating profit	**(23.0)**	**(27.7)**	**(27.7)**	**(16.9)**	**(16.9)**	**(8.6)**	**(25.5)**	**167.3**	**(9.7)**
Pre-tax profit	(64.5)	(45.8)	(36.8)	40.8	75.5	(36.0)	(45.8)	79.1	40.7
Net profit	(57.0)	(39.5)	(39.5)	44.3	44.3	(33.6)	(39.5)	69.6	44.2
Net profit (controlling)	(7.9)	(36.2)	(27.4)	(78.1)	(71.0)	(26.1)	(30.0)	(69.6)	(73.5)
Margins (%)									
Operating profit	(30.7)	(8.2)	(35.6)			(7.4)	(30.8)		
Pre-tax profit	(86.0)	(22.3)	(47.3)			(31.1)	(55.3)		
Net profit	(75.9)	(21.1)	(50.8)			(29.0)	(47.7)		
Net profit (controlling)	(10.6)	(20.1)	(35.2)			(22.6)	(36.1)		

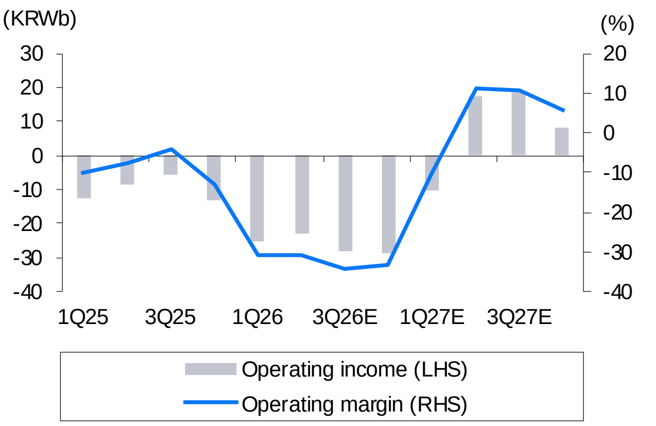
Source: Company data, FnGuide, Samsung Securities estimates

Quarterly sales



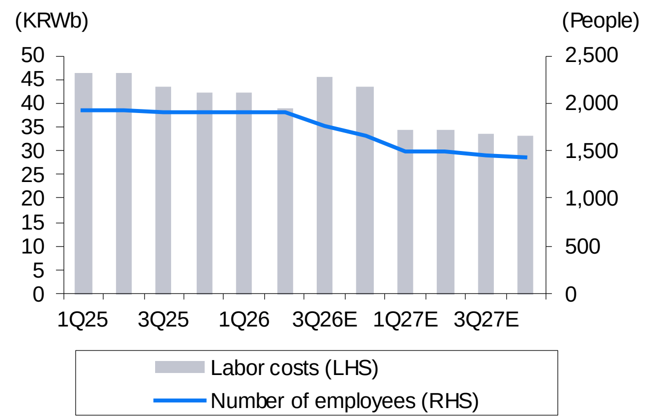
Source: Sensor Tower

Quarterly operating income



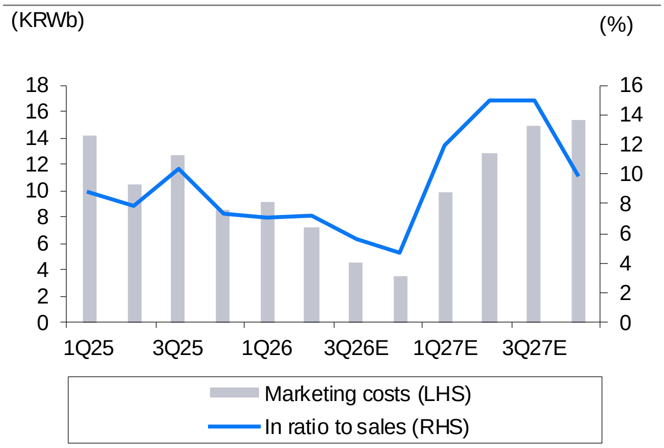
Source: Company data, Samsung Securities estimates

Quarterly labor costs



Source: Company data, Samsung Securities estimates

Quarterly marketing costs



Source: Company data, Samsung Securities estimates

2.5D MMORPG, The World of Dokkaebi

Source: Company data

Odin Q, by Lionheart studio

Source: MTN news

Upcoming titles

Launch	Title	Genre	Platform	Region	In-house/publishing
4Q26	The World of Dokkaebi (formerly Project OQ)	Dot graphics 2.5D MMORPG	Mobile, PC	Korea	Publishing (SuperCat)
	ArcheAge Chronicle	Online Action RPG	PC, Console	Global	In-house (XL Games)
	Dungeon Arise	Strategy Adventure RPG	Mobile	Global	Publishing (TinyFun Games)
1Q27	Odin Q	MMORPG	Mobile, PC	Korea	In-house (Lionheart)
	God Save Birmingham	Open-world zombie survival simulator	PC, Console	Global	In-house (Ocean Drive)
2Q27	Chrono Odyssey	Online Action RPG	PC, Console	Global	Publishing (Chronos Studio)
	Age of Empires S: The Strait of Freedom	MMORPG	PC	Global	In-house (XL Games)
TBD	Project C	Subculture simulation	Mobile, PC	Korea, Japan	In-house (Lionheart)
	Project S	Looter shooter	PC, console	Global	In-house (Lionheart)

Source: Company data, Samsung Securities estimates

Valuation

	(KRWb)
Enterprise value (A+B)	727
Operating value (A=a*b)	621
2027E EBITDA (a)	75
Target EV/EBITDA (x) (b) *	8.3
Asset value (B=c+d)	106
Net cash (c)	(89)
Other financial assets (d)	195
Shares ('000)	82,737
Fair value per share	8,781
Target price	9,000
Current price	7,770
Upside (%)	15.8%

Note: *Average 2027 EV/EBITDA at which peer group is trading;
Based on Aug 5 closing prices
Source: Samsung Securities estimates

Global peers: EV/EBITDA valuation

(x)	2026E	2027E
Pearl Abyss	5.2	4.9
Netmarble	6.0	5.3
Square Enix	6.8	6.3
Nintendo	7.2	7.1
Nexon	9.1	8.4
EA	17.8	17.7
Average	**8.7**	**8.3**

Note: Based on Aug 5 closing prices
Source: Bloomberg

Quarterly results and forecasts

(KRWb)	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26	3Q26E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E
Sales	**122.9**	**115.8**	**127.5**	**98.9**	**82.9**	75.0	82.8	85.9	99.4	153.1	169.1	144.8
PC	26.8	14.8	42.7	29.9	27.9	22.3	31.3	24.6	33.2	38.5	68.9	50.1
Mobile	96.1	101.0	84.8	69.0	55.0	52.7	51.5	61.3	66.2	114.6	100.3	94.7
Operating expenses	**135.3**	**124.4**	**132.9**	**112.0**	**108.4**	**98.0**	**111.0**	**114.7**	**109.8**	**135.6**	**150.6**	**136.7**
Labor costs	46.2	43.2	42.1	42.0	38.7	45.3	43.5	41.7	34.3	33.6	33.1	32.8
Commission paid	62.3	57.5	66.2	48.2	45.9	32.1	42.9	45.0	46.9	69.2	83.6	72.3
Advertising expenses	12.7	8.5	9.1	7.2	4.6	3.5	9.9	12.9	14.9	15.3	15.2	13.0
Other	14.1	15.2	15.5	14.6	19.2	17.2	14.6	15.1	13.6	17.5	18.7	18.6
Operating profit	**(12.4)**	**(8.6)**	**(5.4)**	**(13.1)**	**(25.5)**	**(23.0)**	**(28.2)**	**(28.8)**	**(10.4)**	**17.5**	**18.6**	**8.1**
Pre-tax profit	(34.3)	(36.0)	18.5	(135.5)	(45.9)	(64.5)	(43.3)	(76.1)	(25.1)	(0.2)	1.9	(32.3)
Net profit	(33.4)	(33.6)	34.6	(110.7)	(39.5)	(57.0)	(36.8)	(64.7)	(21.3)	(0.1)	1.6	(28.1)
Net profit (controlling)	(23.0)	(26.1)	34.0	(84.9)	(37.3)	(7.9)	(33.1)	(60.6)	(16.8)	5.1	7.5	(21.7)
Adjusted EPS (KRW)	(161)	(130)	260	(463)	(281)	(40)	(217)	(438)	(81)	(4,290)	578	(87)
Margins (%)												
Operating profit	(10.1)	(7.4)	(4.3)	(13.2)	(30.8)	(30.7)	(34.1)	(33.5)	(10.4)	11.4	11.0	5.6
Pre-tax profit	(27.9)	(31.1)	14.5	(137.0)	(55.4)	(86.0)	(52.3)	(88.6)	(25.2)	(0.1)	1.1	(22.3)
Net profit	(27.2)	(29.0)	27.2	(111.9)	(47.7)	(75.9)	(44.5)	(75.3)	(21.4)	(0.1)	1.0	(19.4)
Net profit (controlling)	(18.7)	(22.6)	26.7	(85.9)	(45.0)	(10.6)	(40.0)	(70.5)	(16.9)	3.3	4.4	(15.0)

Source: Company data, Samsung Securities estimates

Revisions to full-year forecasts

(KRWb)	2026E			2027E			2028E		
	Old	New	Diff (%)	Old	New	Diff (%)	Old	New	Diff (%)
Sales	**353.0**	**326.6**	**(7.5)**	**605.7**	**566.4**	**(6.5)**	**484.3**	**492.2**	**1.6**
PC	115.0	106.1	(7.7)	211.9	190.7	(10.0)	201.9	189.1	(6.3)
Mobile	238.0	220.5	(7.4)	393.8	375.8	(4.6)	282.4	303.1	7.3
Operating expenses	**455.4**	**432.1**	**(5.1)**	**589.5**	**532.6**	**(9.6)**	**536.9**	**489.7**	**(8.8)**
Labor costs	154.9	169.3	9.3	155.2	133.7	(13.9)	156.6	129.7	(17.2)
Commission paid	188.8	165.9	(12.2)	291.8	272.1	(6.7)	248.6	247.0	(0.7)
Advertising expenses	32.7	30.9	(5.4)	52.9	58.5	10.5	43.5	44.2	1.6
Other	79.0	66.1	(16.4)	89.5	68.3	(23.7)	88.2	68.8	(22.1)
Operating profit	**(102.4)**	**(105.6)**	**3.1**	**16.2**	**33.8**	**109.0**	**(52.7)**	**2.5**	**nm**
Pre-tax profit	(205.4)	(229.7)	11.8	(75.1)	(55.6)	(25.9)	(143.7)	(86.9)	(39.6)
Net profit	(177.0)	(197.9)	11.8	(65.4)	(47.9)	(26.7)	(125.1)	(75.6)	(39.6)
Net profit (controlling)	(162.8)	(131.5)	(19.2)	(41.8)	(26.0)	(37.9)	(92.0)	(43.9)	(52.2)
Adjusted EPS (KRW)	(1,167)	(920)	(21.1)	(1,960)	(3,882)	98.1	(549)	(219)	(60.2)
Margins (%)									
Operating profit	(29.0)	(32.3)		2.7	6.0		(10.9)	0.5	
Pre-tax profit	(58.2)	(70.3)		(12.4)	(9.8)		(29.7)	(17.7)	
Net profit	(50.1)	(60.6)		(10.8)	(8.5)		(25.8)	(15.4)	
Net profit (controlling)	(46.1)	(40.3)		(6.9)	(4.6)		(19.0)	(8.9)	

Source: Company data, Samsung Securities estimates

Income statement

Year-end Dec 31 (KRWb)	2024	2025	2026E	2027E	2028E
Sales	**627**	**465**	**327**	**566**	**492**
Cost of goods sold	0	0	0	0	0
Gross profit	**627**	**465**	**327**	**566**	**492**
Gross margin (%)	100.0	100.0	100.0	100.0	100.0
SG&A expenses	608	505	432	533	490
Operating profit	**19**	**-40**	**-106**	**34**	**3**
Operating margin (%)	3.1	-8.5	-32.3	6.0	0.5
Non-operating gains (losses)	**-141**	**-148**	**-124**	**-89**	**-89**
Financial profit	43	54	23	20	13
Financial costs	109	56	109	77	76
Equity-method gains (losses)	-16	-3	-7	-4	-4
Other	-59	-143	-31	-28	-23
Pre-tax profit	**-122**	**-187**	**-230**	**-56**	**-87**
Taxes	5	-44	-32	-8	-11
Effective tax rate (%)	-4.3	23.6	13.8	13.9	13.0
Profit from continuing operations	-113	-140	-198	-48	-76
Profit from discontinued operations	-15	-3	0	0	0
Net profit	**-128**	**-143**	**-198**	**-48**	**-76**
Net margin (%)	-20.4	-30.8	-60.6	-8.5	-15.4
Net profit (controlling interests)	-109	-100	-132	-26	-44
Net profit (non-controlling interests)	-19	-43	-66	-22	-32
EBITDA	91	8	-65	75	43
EBITDA margin (%)	14.6	1.7	-19.8	13.2	8.8
EPS (parent-based) (KRW)	-1,318	-1,186	-1,330	-243	-412
EPS (consolidated) (KRW)	-1,550	-1,696	-2,001	-449	-708
Adjusted EPS (KRW)*	-716	-539	-948	-3,882	-219

Balance sheet

Year-end Dec 31 (KRWb)	2024	2025	2026E	2027E	2028E
Current assets	**1,069**	**941**	**756**	**1,086**	**836**
Cash & equivalents	605	492	413	579	434
Accounts receivable	43	25	22	37	27
Inventories	0	0	0	0	0
Other current assets	421	424	321	469	375
Fixed assets	**2,104**	**1,736**	**1,714**	**1,687**	**1,637**
Investment assets	498	237	231	245	236
Tangible assets	12	13	14	-6	-26
Intangible assets	1,484	1,348	1,342	1,321	1,300
Other long-term assets	109	137	127	127	127
Total assets	**3,173**	**2,677**	**2,470**	**2,773**	**2,473**
Current liabilities	**1,199**	**514**	**556**	**736**	**621**
Accounts payable	0	0	0	0	0
Short-term debt	190	0	0	0	0
Other current liabilities	1,009	514	556	735	620
Long-term liabilities	**495**	**965**	**976**	**1,146**	**1,037**
Bonds & long-term debt	147	645	658	658	658
Other long-term liabilities	348	319	318	488	379
Total liabilities	**1,695**	**1,479**	**1,532**	**1,882**	**1,658**
Owners of parent equity	**1,338**	**1,184**	**1,030**	**1,004**	**960**
Capital stock	8	9	9	9	9
Capital surplus	1,100	1,119	1,112	1,112	1,112
Retained earnings	188	137	6	-20	-64
Other	42	-81	-97	-97	-97
Non-controlling interests' equity	**140**	**14**	**-91**	**-113**	**-144**
Total equity	**1,478**	**1,198**	**939**	**891**	**815**
Net debt	444	280	485	235	435

Cash flow statement

Year-end Dec 31 (KRWb)	2024	2025	2026E	2027E	2028E
Cash flow from operations	**27**	**-44**	**-70**	**286**	**-182**
Net profit	-128	-143	-198	-48	-76
Non-cash profit and expenses	220	209	66	55	56
Depreciation	36	19	20	20	20
Amortization	37	28	21	21	21
Other	148	161	25	14	15
Changes in A/L from operating activities	-17	-23	48	271	-174
Cash flow from investments	**85**	**-6**	**96**	**-119**	**115**
Change in tangible assets	-10	-8	-16	0	0
Change in financial assets	120	-268	99	-147	94
Other	-25	271	13	28	21
Cash flow from financing	**-137**	**-89**	**-58**	**7**	**-79**
Change in debt	-232	-10	28	53	-34
Change in equity	0	20	-7	0	0
Dividends	0	0	0	0	0
Other	95	-98	-79	-46	-45
Change in cash	-24	-137	-79	167	-146
Cash at beginning of year	654	630	492	413	579
Cash at end of year	630	492	413	579	434
Gross cash flow	**92**	**66**	**-132**	**7**	**-20**
Free cash flow	**15**	**-52**	**-86**	**286**	**-182**

Note: *Excluding one-off items
**Fully diluted, excluding one-off items
***From companies subject to equity-method valuation
Source: Company data, Samsung Securities estimates

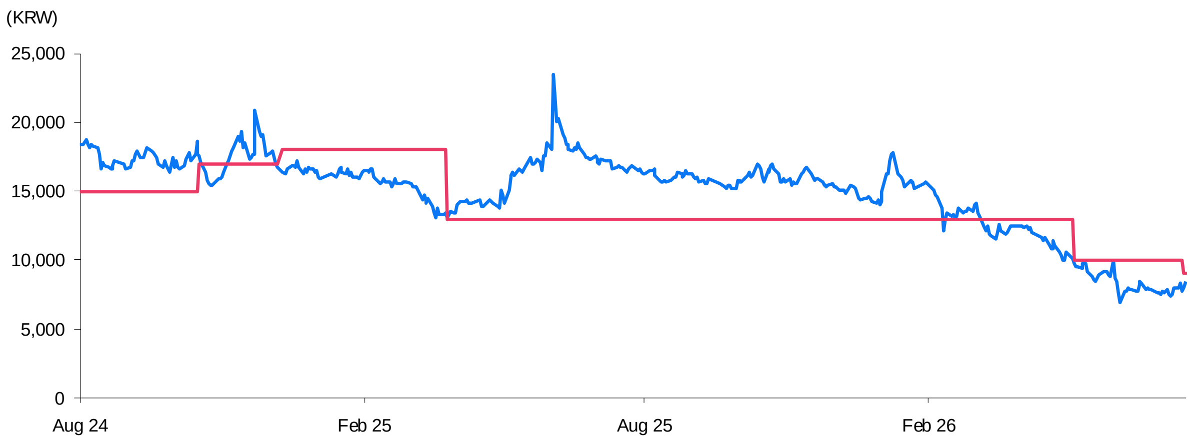
Financial ratios

Year-end Dec 31	2024	2025	2026E	2027E	2028E
Growth (%)					
Sales	-13.6	-25.9	-29.8	73.4	-13.1
Operating profit	-74.6	nm	nm	nm	-92.6
Net profit	nm	nm	nm	nm	nm
Adjusted EPS**	nm	nm	nm	nm	nm
Per-share data (KRW)					
EPS (parent-based)	-1,318	-1,186	-1,330	-243	-412
EPS (consolidated)	-1,550	-1,696	-2,001	-449	-708
Adjusted EPS**	-716	-539	-948	-3,882	-219
BVPS	16,316	13,314	9,677	9,433	9,020
DPS (common)	0	0	0	0	0
Valuations (x)					
P/E***	n/a	n/a	n/a	n/a	n/a
P/B***	1.0	1.1	0.9	0.9	0.9
EV/EBITDA	21.2	200.8	n/a	13.5	27.1
Ratios (%)					
ROE	-8.0	-7.9	-11.9	-2.6	-4.5
ROA	-3.9	-4.9	-7.7	-1.8	-2.9
ROIC	1.1	-2.0	-6.7	2.3	0.2
Payout ratio	0.0	0.0	0.0	0.0	0.0
Dividend yield (common)	0.0	0.0	0.0	0.0	0.0
Net debt to equity	30.1	23.4	51.7	26.4	53.3
Interest coverage (x)	0.4	-0.8	-2.4	0.7	0.1

Compliance notice

- As of 8/7 2026, the covering analyst(s) did not own any shares, or debt instruments convertible into shares, of any company covered in this report.
- As of 8/7 2026, Samsung Securities' holdings of shares and debt instruments convertible into shares of each company covered in this report would not, if such debt instruments were converted, exceed 1% of each company's outstanding shares.
- This report has been prepared without any undue external influence or interference, and accurately reflects the views of the analyst(s) covering the company or companies herein.
- All material presented in this report, unless specifically indicated otherwise, is under copyright to Samsung Securities.
- Neither the material nor its content (including copies) may be altered in any form, or by any means transmitted, copied, or distributed to another party, without prior express written permission from Samsung Securities.
- This memorandum is based upon information available to the public. While we have taken all reasonable care to ensure its reliability, we do not guarantee its accuracy or completeness. This memorandum is not intended to be an offer, or a solicitation of any offer, to buy or sell the securities mentioned herein. Samsung Securities shall not be liable whatsoever for any loss, direct or consequential, arising from the use of this memorandum or its contents. Statements made regarding affiliates of Samsung Securities are also based upon publicly available information and do not necessarily represent the views of management at such affiliates.
- This material has not been distributed to institutional investors or other third parties prior to its publication.

Target price changes in past two years



Rating changes over past two years (adjusted share prices)

Date	2024/7/12	11/7	12/30	2025/4/16	2026/4/16	2026/5/27	8/6
Recommendation	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
Target price (KRW)	15000	17000	18000	13000	13000	10000	9000
Gap* (average)	17.94	2.77	-12.52	20.32	-11.62	-16.85	
(max or min)**	9.47	-9.47	-4.17	-11.46	-3.69	0.40	

Note: * [(average, maximum, or minimum share price over duration of target price minus target price) / target price] x 100%
** Maximum/minimum share price if new target is higher/lower than market close on the business day prior to target price change

Samsung Securities uses the following investment ratings*

Company

BUY	Expected to increase in value by 15% or more within 12 months and is highly attractive within sector
HOLD	Expected to increase/decrease in value by less than 15% within 12 months
SELL	Expected to decrease in value by 15% or more within 12 months

Industry

OVERWEIGHT	Expected to outperform market by 5% or more within 12 months
NEUTRAL	Expected to outperform/underperform market by less than 5% within 12 months
UNDERWEIGHT	Expected to underperform market by 5% or more within 12 months

* Note: Effective Jul 27, 2023, BUY, HOLD, and SELL criteria are based on expectations of share-price moves of 15% or more within 12 months

Percentage of ratings in 12 months prior to 2026.06.30

BUY(85.5%)·HOLD(14.5%)·SELL(0%)

Global Disclosures & Disclaimers

General

This research report is for information purposes only. It is not and should not be construed as an offer or solicitation of an offer to purchase or sell any securities or other financial instruments or to participate in any trading strategy. This report does not provide individually tailored investment advice. This report does not take into account individual client circumstances, objectives, or needs and is not intended as recommendations of particular securities, financial instruments or strategies to any particular client. The securities and other financial instruments discussed in this report may not be suitable for all investors. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein and investors should seek the advice of a financial adviser.

This report may not be altered, reproduced, distributed, transmitted or published in whole or in part for any purpose. References to "Samsung Securities" are references to any company in the Samsung Securities, Co., Ltd. group of companies.

Samsung Securities and/or other affiliated companies, its and their directors, officers, representatives, or employees may have long or short positions in any of the securities or other financial instruments mentioned in this report or of issuers described herein and may purchase and/or sell, or offer to purchase and/or sell, at any time, such securities or other financial instruments in the open market or otherwise, as either a principal or agent. Any pricing of securities or other financial instrument contained herein is as of the close of market for such day, unless otherwise stated. Opinions and estimates contained herein constitute our judgment as of the date of this report and are subject to change without notice.

The information provided in this report is provided "AS IS". Although the information contained herein has been obtained from sources believed to be reliable, no representation or warranty, either expressed or implied, is provided by Samsung Securities in relation to the accuracy, completeness or reliability of such information or that such information was provided for any particular purpose and Samsung Securities expressly disclaims any warranties of merchantability or fitness for a particular purpose. Furthermore, this report is not intended to be a complete statement or summary of the securities, markets or developments referred to herein.

Samsung Securities does not undertake that investors will obtain any profits, nor will it share with investors any investment profits. Samsung Securities, its affiliates, or any of its and their affiliates, directors, officers, employees or agents disclaim any and all responsibility or liability whatsoever for any loss (direct or consequential) or damage arising out of the use of all or any part of this report or its contents or otherwise arising in connection therewith. Information and opinions contained herein are subject to change without notice. Past performance is not indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative. Any opinions expressed in this report are subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of Samsung Securities. Any analysis contained herein is based on numerous assumptions. Different assumptions may result in materially different results. Samsung Securities is under no obligation to update or keep current the information contained herein. Samsung Securities relies on information barriers to control the flow of information contained in one or more areas or groups within Samsung Securities into other areas or groups of Samsung Securities. Any prices stated in this report are for information purposes only and do not represent valuations for individual securities or other financial instruments. Samsung Securities makes no representation that any transaction can or could have been effected at those prices and any prices contained herein may not reflect Samsung Securities' internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by Samsung Securities or any other source may yield substantially different results. Additional information is available upon request.

For reports to be distributed to US:

Securities research is prepared, issued and exclusively distributed by Samsung Securities Co., Ltd., an organization licensed with the Financial Supervisory Service of South Korea. This research may be distributed in the United States only to major institutional investors as defined in Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended, and may not be circulated to any other person otherwise. All transactions by U.S. investors involving securities discussed in this report must be effected through Samsung Securities (America) Inc., a broker-dealer registered with the U.S. Securities & Exchange Commission and a member of the Financial Industry Regulatory Authority/SIPC, and not through any non-U.S. affiliate thereof. The analysts listed [on the front of this report] are employees of Samsung Securities Co., Ltd., or a non-U.S. affiliate thereof, and are not registered/qualified as research analysts under applicable U.S. rules and regulations and may not be subject to U.S. restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

For reports to be distributed to UK:

This report is not an invitation nor is it intended to be an inducement to engage in investment activity for the purpose of section 21 of the Financial Services and Markets Act 2000 of the United Kingdom ("FSMA"). To the extent that this report does constitute such an invitation or inducement, it is directed only at (i) persons who are investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2001 (as amended) of the United Kingdom (the "Financial Promotion Order"); (ii) persons who fall within Articles 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order; and (iii) any other persons to whom this report can, for the purposes of section 21 of FSMA, otherwise lawfully be made (all such persons together being referred to as "relevant persons").

Any investment or investment activity to which this report relates is available only to relevant persons and will be engaged in only with relevant persons. Persons who are not relevant persons must not act or rely on this report.

For reports to be distributed to Korea:

This report is for private circulation only, not for sale, and is issued and distributed only to persons permitted under the laws and regulations of Korea.

For reports to be distributed to Singapore:

This report is provided pursuant to the financial advisory licensing exemption under Regulation 27(1)(e) of the Financial Advisers Regulation of Singapore and accordingly may only be provided to persons in Singapore who are "institutional investors" as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore. This report is intended only for the person to whom Samsung Securities has provided this report and such person may not send, forward or transmit in any way this report or any copy of this report to any other person.

Analyst certification

The views expressed in this research report accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of such analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research report. The analyst(s) principally responsible for the preparation of this research report receives compensation based on determination by research management and senior management (not including investment banking), based on the overall revenues, including investment banking revenues of Samsung Securities Co., Ltd. and its related entities and has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations.

Samsung Securities

SAMSUNG SECURITIES

Samsung Electronics Bldg., 11, 74-gil,
Seochodae-ro, Seocho-gu, Seoul, Korea 06620
Tel: 02 2020 8000 / www.samsungpop.com

Family Center: 1588 2323

Voice Of Customer: 080 911 0900

For more information, please call our sales representatives:

LONDON

Samsung Securities Europe Limited
1st Floor, 30 Gresham Street, London EC2V 7PG UK
Tel. 44-207-776-4311
Fax. 44-203-837-9219

NEW YORK

Samsung Securities America Limited
1330 Avenue of the Americas. 10th Floor. New York,
NY 10019
Tel: 1-212-972-2454
Fax: 1-212-972-2704

HONG KONG

Samsung Securities (Asia) Limited
Suite 4511, Two International Finance Center,
8 Finance Street, Central, Hong Kong
Tel: 852-3411-3608
Fax: 852-2114-0290

BEIJING

Samsung Securities Beijing Representative Office
Rm. 910, The Exchange Building No 118 JianGuo Lu, Chao Yang District, Beijing, China
Tel: 86-10-6522-1855 (extension 7891)
Fax: 86-10-6522-1855 (extension 7889)

TOKYO

Samsung Securities Tokyo Representative Office
#106-8532 19F, Roppongi T-Cube 3-1-1,
Roppongi Minato-ku Tokyo, Japan
Tel: 81-3-6333-2952
Fax: 81-3-6333-2953