

# NAVER

(035420 KS)

## Generative AI to bring about positive changes

**Buy**  
(Maintain)

TP: W280,000  
Upside: 38.6%

Mirae Asset Securities Co., Ltd.

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### AI services to gather traction in 2H23

#### NAVER to launch HyperCLOVA X, an upgraded version of HyperCLOVA, in July

- NAVER's HyperCLOVA X was trained on 560bn tokens of Korean data—equivalent to fifty years' worth of news and nine years' worth of blog posts.
- The biggest strength of NAVER's AI platform is its ability to learn from the quality data that the company has amassed over more than two decades as Korea's largest search engine and data repository (blogs, news, online communities, etc.).
- To provide more advanced and customized search functions, the company plans to release SearchGPT, which will be based on HyperCLOVA X.
- The company is also continuing to release AI-based service apps. Among them, CLOVA Note has seen a more than threefold increase in downloads since the start of the year.

### Impact on ad, commerce, and webtoon businesses

#### Generative AI will do more good than harm

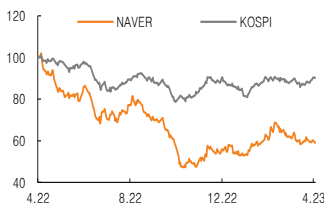
- Ads: While the spread of generative AI will inevitably lead to a drop in the time spent on NAVER platforms, we believe the impact will be offset by greater ad efficiency resulting from more advanced targeting.
- Commerce: Generative AI allows for more refined ad targeting through searches that combine images and text. This should lead to better conversion rates, boosting GMV per time spent on NAVER Shopping.
- Webtoons: The creation of stories through generative AI and the use of colorization tools like AI Painter could help revive the stagnant webtoon industry, which faces content supply issues.

### Focus on positive changes

#### Maintain Buy and TP of W280,000

- NAVER is trading at a 2023F P/E of 28x, the bottom end of its post-2019 range, amid worries about earnings due to the protracted weakness of the ad market.
- We believe investors should look beyond near-term earnings risks and focus on the potential positive effects of generative AI on the company's major business divisions. In particular, we believe the adoption of HyperCLOVA X and SearchGPT will lead to higher pricing for commerce, ads, and content (in that order).
- In 2023, any margin improvement will likely hinge on commerce rather than ads (which continue to face unfavorable market conditions).
- We believe more advanced targeting through searches that combine images and text will be a key source of competitiveness that sets NAVER's commerce platform apart. We expect take rate to continue to rise (from 1.45% in 2022 to 1.59% in 2023).

### Key data



Current price (3/31/23, W)	202,000	Market cap (Wbn)	33,138
OP (22, Wbn)	1,305	Shares outstanding (mn)	164
Consensus OP (22F, Wbn)	-	Free float (%)	83.3
EPS growth (22, %)	-95.4	Foreign ownership (%)	47.5
P/E (22, x)	38.7	Beta (12M)	1.18
Market P/E (22, x)	-	52-week low (W)	158,500
KOSPI	2,476.86	52-week high (W)	342,500

### Share performance

(%)	1M	6M	12M
Absolute	-3.1	4.4	-40.7
Relative	-5.6	-9.2	-34.0

### Earnings and valuation metrics

(Dec.)	2019	2020	2021	2022	2023F	2024F
Revenue (Wbn)	4,356	5,304	6,818	8,220	10,106	11,355
OP (Wbn)	1,155	1,215	1,325	1,305	1,363	1,638
OP margin (%)	26.5	22.9	19.4	15.9	13.5	14.4
NP (Wbn)	583	1,002	16,490	752	1,171	1,482
EPS (W)	3,538	6,097	100,400	4,586	7,137	9,032
ROE (%)	10.6	15.2	106.7	3.2	4.7	5.7
P/E (x)	52.7	48.0	3.8	38.7	27.8	21.9
P/B (x)	4.3	5.6	2.5	1.2	1.2	1.2
Div. yield (%)	0.2	0.1	0.1	0.3	0.3	0.3

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

Source: Company data, Mirae Asset Securities Research estimates

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### Hyperscale AI business overview

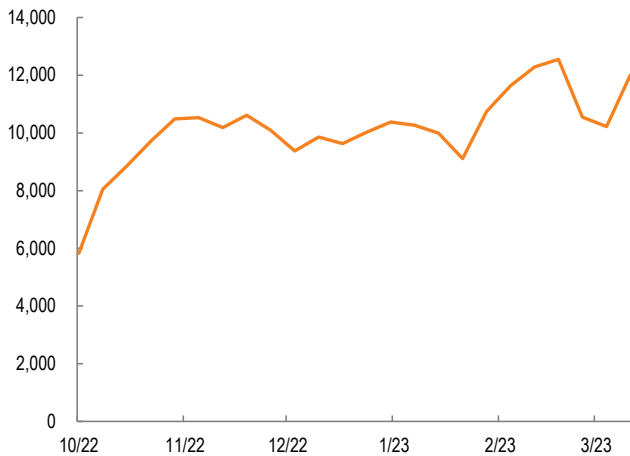
#### Development and rapid commercialization of Korea’s first AI foundation model

In May 2021, NAVER unveiled HyperCLOVA, the first domestically developed hyperscale AI model. Due to their costly infrastructure, hyperscale AI models/platforms require significant capital. As such, the domestic hyperscale AI industry has become a battleground among large platform operators (NAVER and Kakao) and telcos (SK Telecom, KT, and LG Uplus).

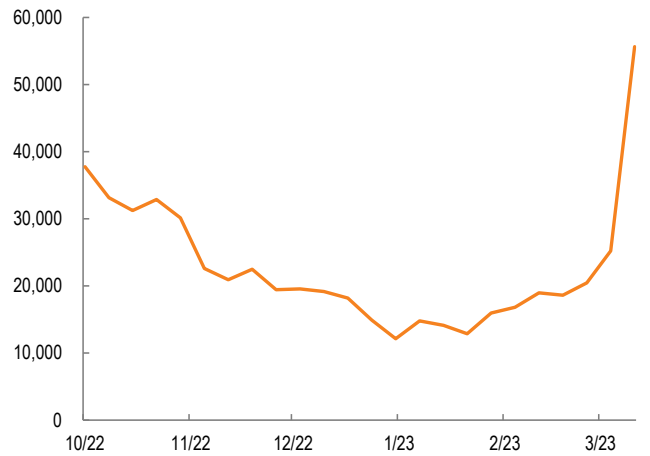
NAVER remains ahead of rivals in the commercialization of hyperscale AI. The company’s AI-based apps like CLOVA, CLOVA Note, and CLOVA Dubbing are gaining increasing popularity among users for their convenient services. In particular, CLOVA Note, an AI-based speech recognition service, has seen a more than threefold increase in downloads since the start of the year.

In July, NAVER plans to release HyperCLOVA X, an upgraded version HyperCLOVA. HyperCLOVA X was trained on 560bn tokens of Korean data—equivalent to fifty years’ worth of news and nine years’ worth of blog posts. To provide more advanced and customized search functions, the company also plans to release SearchGPT, which will be based on HyperCLOVA X.

**Figure 1. CLOVA: Weekly downloads** **Figure 2. CLOVA Note: Weekly downloads**



Source: Sensor Tower, Mirae Asset Securities Research



Source: Sensor Tower, Mirae Asset Securities Research

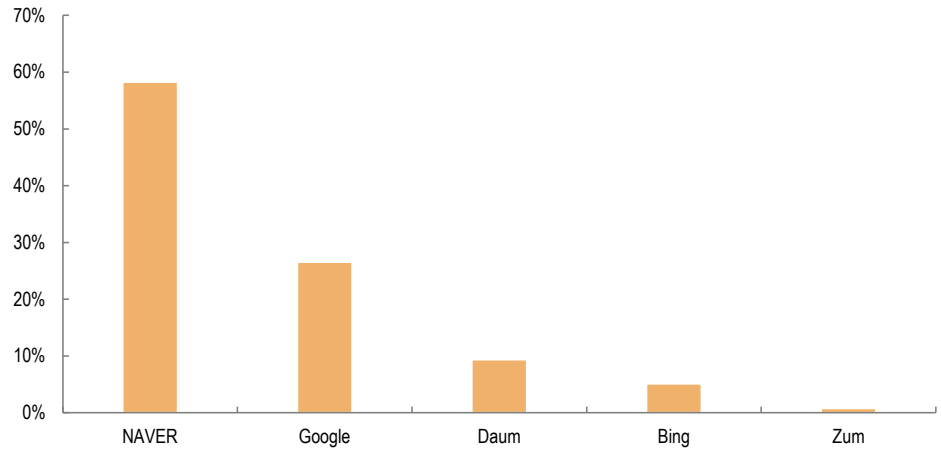
**Likely to become Korea’s only viable foundation model**

While we do not see NAVER directly competing with global foundation models like ChatGPT in overseas markets, we think the company’s foundation model has ample potential to become viable in the domestic market. We believe NAVER’s vast Korean-language data— unrivaled by global tech companies in sheer volume and quality—will serve as its biggest weapon in developing a Korean-specialized model. NAVER can leverage the data it has accumulated over the past two decades from its blogs, news, and online communities, but competitors have little means to acquire such quality data in large volumes.

The fact that most search queries on NAVER lead users to other NAVER platforms should also work to the company’s advantage. NAVER is not only Korea’s largest search engine, but also its largest data repository (online communities, blogs, etc.), news portal, price comparison platform (80% market share), and commerce platform (20% market share).

In light of this, if global foundation models exclude NAVER from their training data, then the answers they produce may be irrelevant to Korean users. It should be noted that NAVER’s ability to generate relevant, localized results is what has allowed the company to defend itself from Google in the domestic search engine market for the past 20 years.

**Figure 3. Domestic search engine M/S**



Source: KoreanClick, Mirae Asset Securities Research

We also believe NAVER stands to benefit the most from government actions to protect AI sovereignty. The Korean government has been actively increasing support for the AI industry, arguing that the development of a competitive homegrown platform is critical to data sovereignty. Looking ahead, we believe support for the development of foundation models (the infrastructure of the generative AI value chain) will become a policy priority.

Even if NAVER’s foundation model loses out to global competitors in the domestic B2C sector, we believe it will still become viable in the public and B2B sectors. We believe the government is likely to encourage the use of a domestic foundation model for the sake of protecting AI sovereignty. An analogous example is Hancom Office, which has lost the battle with Microsoft Office but still maintains a 30% market share due to the government’s backing.

### Advancing into Japan's hyperscale AI market

Alongside its affiliate LINE, NAVER already offers AI services in Japan through the operation of CLOVA. NAVER is working on refining HyperCLOVA based on the Korean language, and LINE is doing the same based on Japanese. In addition to basic AI-based solutions, we believe the company will offer generative AI services specialized for Japanese. LINE has said that it is utilizing open data and data purchased from news agencies for AI learning, which correspond to 2,700 years' worth of newspapers.

Backed by LINE's massive user base (more than 92mn active users in Japan), we believe CLOVA will gain a competitive advantage in Japan's B2B sector. LINE Works is already actively adopting AI technology and is set to launch an AI assistant that can take notes during meetings and generate to-do lists.

**Figure 4. Various AI solutions provided by LINE CLOVA**



Source: LINE, Mirae Asset Securities Research

## Changes in core businesses

### 1) Advertising

The adoption of generative AI is not necessarily bad for the advertising business. While the spread of generative AI will inevitably lead to a drop in the time spent on NAVER platforms, we believe the impact will be offset by greater ad efficiency. Moreover, a decrease in exposure time will not necessarily lead to a contraction in the advertising market.

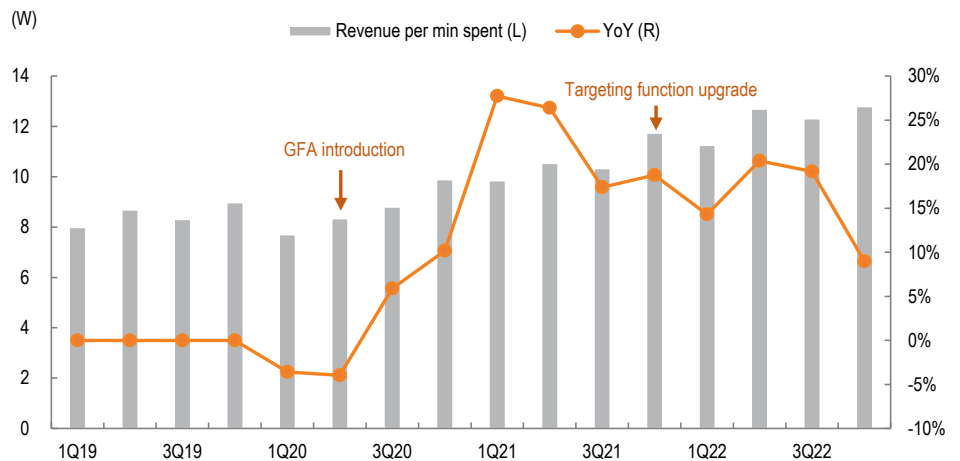
In the online shopping space, it should be noted that generative AI narrows down choices from dozens to a few, rather than presenting a single option. The fact that multiple options will be available means that the ad business is still sustainable. (Online shoppers will still browse and compare items and weigh options in real time before making a final decision.) For advertisers, exposure time, location, and frequency are just minor concerns; what matters most is whether ads translate into satisfactory revenue growth relative to the associated costs. Accordingly, we believe that NAVER's ad revenue will remain at the current levels as long as efficiency remains intact (even in the event of a decrease in time spent).

The adoption of AI technology in advertising is already driving meaningful growth at NAVER's search platform business. Glad for Advertise (GFA), the firm's performance-based display ad solution introduced in May 2020, actively utilizes AI technology to provide targeted ads based on users' personal characteristics and interests.

Since GFA's introduction, NAVER's revenue per time spent has grown sharply, suggesting that AI and big data technologies are helping improve ad efficiency. Indeed, the company has successfully overcome the impact of slowing time spent through greater ad efficiency enabled by targeted ads, sustaining around 10% YoY search platform revenue growth.

In Oct. 2021, the firm introduced AiRSearch to deliver more customized content to cater to individual users. It provides content bundled in "Smart Blocks" that reflect user interest, instead of classifying/exposing search results by predetermined categories (images, videos, shopping, news, etc.)

**Figure 5. NAVER: Search platform revenue per minute spent (quarterly)**



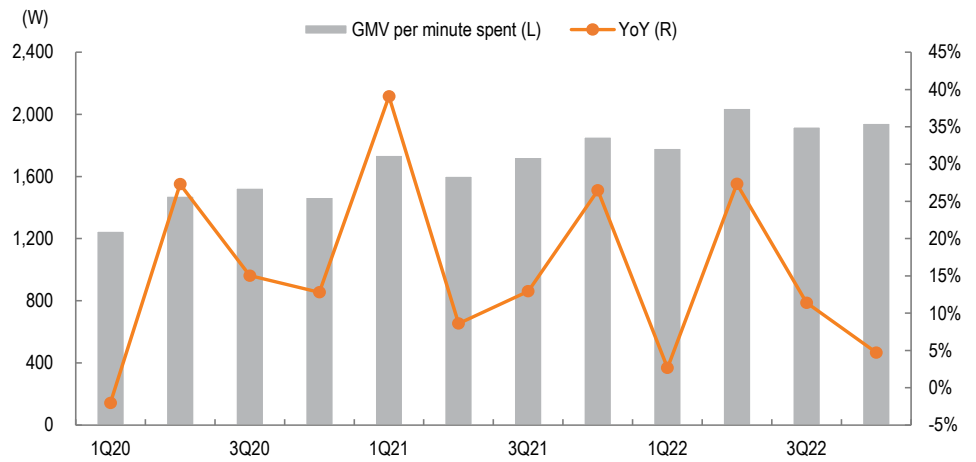
Note: Figures are based on est. time spent and may differ from actual data.  
 Source: KoreanClick, Mirae Asset Securities Research estimates

## 2) Commerce

NAVER Shopping began deploying AI technology in 2017 with the introduction of AiTEMS—a deep learning-based shopping recommendation system that allows users to find what they want more easily based on their preferences. In Jul. 2021, NAVER also began applying its hyperscale AI platform HyperCLOVA to its commerce business. HyperCLOVA improves the user experience by automatically simplifying product descriptions on the mobile shopping tab (making long and complicated descriptions more intuitive).

The introduction of AI technology in commerce has increased convenience for shoppers, leading to higher spending per time spent as well as increased commerce ad revenue. In 2022, we estimate GMV per minute spent on NAVER Shopping grew 11% YoY. NAVER's GMV growth is roughly double that of the overall e-commerce market.

**Figure 6. GMV per minute spent on NAVER Shopping**



Source: KoreanClick, Mirae Asset Securities Research estimates

### 3) Content

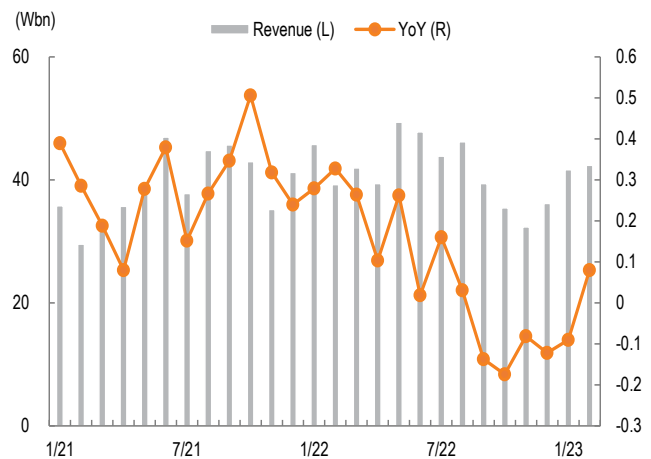
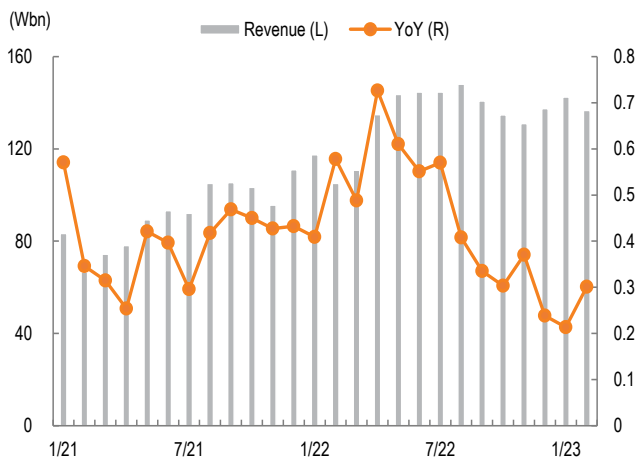
We think the introduction of generative AI could also help ease the content supply shortage facing the webtoon industry. The global webtoon industry has experienced a sharp slowdown since 2022. Excluding acquisition effects, we estimate webtoon transaction value growth (YoY) at both NAVER and Kakao nearly flatlined in 2H22. The steep deceleration is largely attributable to a shortage of well-made webtoons with captivating storylines and engaging visuals.

Going forward, we believe generative AI and AI-based tools will lead to an increase in high-quality webtoon/web novel content. Several platforms are already generating webtoon/web novel storylines, and there are now AI tools that allow users to colorize sketches with a single click. We believe there may soon come a time when webtoons featuring AI-generated storylines and AI-based colorization achieve sufficiently high quality to attract paying users.

Historically, whenever entry barriers to content creation were lowered, massive new markets came to life. The advent of app stores reduced entry barriers to game development, paving the way for the rise of mobile games and catalyzing a quantum leap for the gaming industry. The emergence of YouTube removed entry barriers to producing video content, creating a streaming ad market worth tens of trillions of won. Similarly, we believe generative AI models that can create storylines and AI tools that can turn them into webtoons could set in motion the rise of another massive new market.

Figure 7. NAVER Webtoon: Monthly global transaction value

Figure 8. LINE Manga: Monthly transaction value

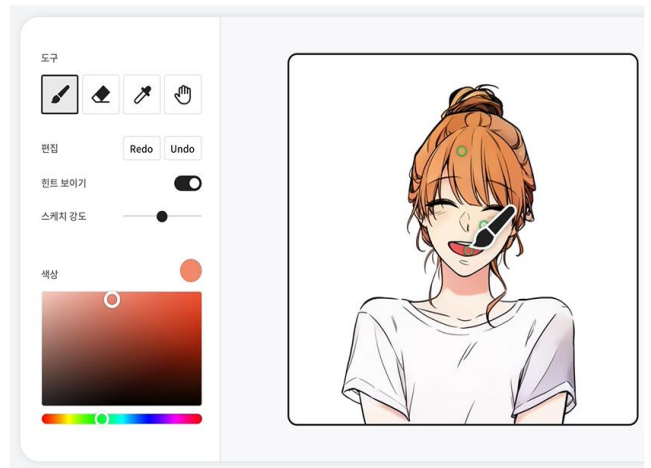


Source: Sensor Tower, Mirae Asset Securities Research estimates

Source: Sensor Tower, Mirae Asset Securities Research estimates

Figure 9. Collyry: AI content creation platform

Figure 10. AI Painter: AI-based webtoon colorization solution



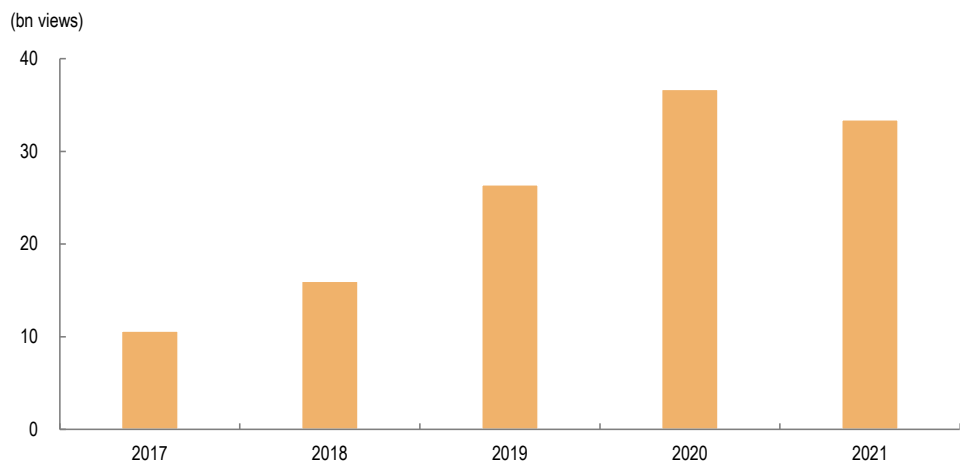
Source: Nestyle, Mirae Asset Securities Research

Source: Company materials, Mirae Asset Securities Research

The company already applies AI technology to make tailored content suggestions to NAVER Webtoon users, contributing to the platform’s revenue growth. NAVER Webtoon’s AI system analyzes each user’s preferences based on their viewing and purchase histories and uses that information to make personalized recommendations. This leads to more time and money spent on the platform.

NAVER Webtoon’s AI-based anti-piracy system, named “Toon Radar” has also been making a meaningful contribution to its revenue behind the scenes. We estimate the value of works protected by the anti-piracy system at over W200bn annually, which is equivalent to more than 20% of NAVER Webtoon’s 2022 full-year revenue of around W1tr.

**Figure 11. Traffic on illegal webtoon sites has surged**



Source: Korea Creative Content Agency, Mirae Asset Securities Research

## NAVER (035420 KS)

## Income statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
<b>Revenue</b>	<b>6,818</b>	<b>8,220</b>	<b>10,106</b>	<b>11,355</b>
<b>Cost of revenue</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GP</b>	<b>6,818</b>	<b>8,220</b>	<b>10,106</b>	<b>11,355</b>
<b>SG&amp;A expenses</b>	<b>5,492</b>	<b>6,915</b>	<b>8,743</b>	<b>9,717</b>
<b>OP (adj.)</b>	<b>1,325</b>	<b>1,305</b>	<b>1,363</b>	<b>1,638</b>
<b>OP</b>	<b>1,325</b>	<b>1,305</b>	<b>1,363</b>	<b>1,638</b>
<b>Non-operating profit</b>	<b>801</b>	<b>-249</b>	<b>200</b>	<b>294</b>
Net financial income	-25	-45	-35	-26
Net income from associates	545	64	161	250
Pretax profit	2,126	1,056	1,563	1,932
Income tax	649	392	469	560
Profit from continuing operations	1,478	664	1,094	1,372
Profit from discontinued operations	15,000	0	0	0
<b>NP</b>	<b>16,478</b>	<b>664</b>	<b>1,094</b>	<b>1,372</b>
Attributable to owners	16,490	752	1,171	1,482
Attributable to minority interests	-12	-88	-77	-110
<b>Total comprehensive income</b>	<b>16,225</b>	<b>664</b>	<b>1,094</b>	<b>1,372</b>
Attributable to owners	16,233	664	1,095	1,373
Attributable to minority interests	-8	0	-1	-1
EBITDA	1,759	1,776	1,840	2,133
FCF	626	25	1,437	1,671
EBITDA margin (%)	25.8	21.6	18.2	18.8
OP margin (%)	19.4	15.9	13.5	14.4
Net margin (%)	241.9	9.1	11.6	13.1

## Cash flow statement (summarized)

(Wbn)	2021	2022F	2023F	2024F
<b>Operating cash flow</b>	<b>1,380</b>	<b>1,524</b>	<b>1,687</b>	<b>1,971</b>
NP	16,478	664	1,094	1,372
Non-cash income/expenses	-14,398	854	927	1,027
Depreciation	412	427	433	450
Amortization	21	45	44	45
Other	-14,831	382	450	532
Chg. in working capital	-10	389	115	104
Chg. in AR & other receivables	-40	0	0	0
Chg. in inventory	0	-1	-2	-1
Chg. in AP & other payables	76	0	0	0
Income tax	-713	-392	-469	-560
<b>Cash flow from investing activities</b>	<b>-13,999</b>	<b>-1,100</b>	<b>-302</b>	<b>-373</b>
Chg. in PP&E	-747	-760	-250	-300
Chg. in intangible assets	-52	-580	-35	-55
Chg. in financial assets	-507	240	-17	-18
Other	-12,693	0	0	0
<b>Cash flow from financing activities</b>	<b>11,642</b>	<b>-533</b>	<b>-113</b>	<b>-138</b>
Chg. in financial liabilities	3,089	-457	-36	-61
Chg. in equity	-303	0	0	0
Dividends	-60	-76	-77	-77
Other	8,916	0	0	0
<b>Chg. in cash</b>	<b>-1,064</b>	<b>645</b>	<b>1,271</b>	<b>1,461</b>
Beginning balance	3,846	2,781	3,427	4,698
Ending balance	2,781	3,427	4,698	6,159

Source: Company data, Mirae Asset Securities Research estimates

## Balance sheet (summarized)

(Wbn)	2021	2022F	2023F	2024F
<b>Current assets</b>	<b>5,528</b>	<b>6,439</b>	<b>7,760</b>	<b>9,271</b>
Cash & equivalents	2,781	3,427	4,698	6,159
AR & other receivables	0	0	0	0
Inventory	6	7	9	10
Other current assets	2,741	3,005	3,053	3,102
<b>Non-current assets</b>	<b>28,163</b>	<b>27,874</b>	<b>27,682</b>	<b>27,542</b>
Investments in associates	20,090	19,287	19,287	19,287
PP&E	2,111	2,444	2,261	2,111
Intangible assets	932	1,468	1,459	1,469
<b>Total assets</b>	<b>33,691</b>	<b>34,313</b>	<b>35,442</b>	<b>36,813</b>
<b>Current liabilities</b>	<b>3,923</b>	<b>4,838</b>	<b>4,879</b>	<b>4,896</b>
AP & other payables	631	631	644	656
Short-term financial liabilities	567	1,073	1,036	975
Other current liabilities	2,725	3,134	3,199	3,265
<b>Non-current liabilities</b>	<b>5,740</b>	<b>4,860</b>	<b>4,930</b>	<b>4,990</b>
Long-term financial liabilities	3,395	2,940	2,940	2,940
Other non-current liabilities	2,345	1,920	1,990	2,050
<b>Total liabilities</b>	<b>9,664</b>	<b>9,698</b>	<b>9,809</b>	<b>9,885</b>
<b>Equity attributable to owners</b>	<b>23,535</b>	<b>24,211</b>	<b>25,306</b>	<b>26,711</b>
Capital stock	16	16	16	16
Capital surplus	1,490	1,490	1,490	1,490
Retained earnings	23,080	23,756	24,851	26,256
<b>Minority interests</b>	<b>492</b>	<b>404</b>	<b>327</b>	<b>217</b>
<b>Shareholders' equity</b>	<b>24,027</b>	<b>24,615</b>	<b>25,633</b>	<b>26,928</b>

## Key valuation metrics/ratios

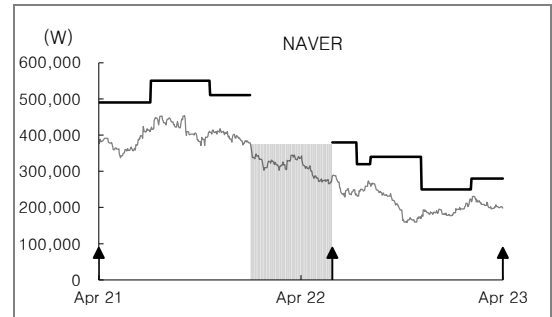
	2021	2022F	2023F	2024F
P/E (x)	3.8	38.7	27.8	21.9
P/CF (x)	29.9	19.2	16.1	13.6
P/B (x)	2.5	1.2	1.2	1.2
EV/EBITDA (x)	35.8	16.1	16.7	13.6
EPS (W)	100,400	4,586	7,137	9,032
CFPS (W)	12,665	9,254	12,320	14,621
BPS (W)	149,967	154,087	160,757	169,321
DPS (W)	511	511	511	511
Dividend payout ratio (%)	0.5	11.5	7.0	5.6
Dividend yield (%)	0.1	0.3	0.3	0.3
Revenue growth (%)	28.5	20.6	22.9	12.4
EBITDA growth (%)	2.8	1.0	3.6	15.9
OP growth (%)	9.1	-1.6	4.5	20.2
EPS growth (%)	1,546.6	-95.4	55.6	26.6
AR turnover (x)	0.0	0.0	0.0	0.0
Inventory turnover (x)	1,300.5	1,213.9	1,224.7	1,175.0
AP turnover (x)	0.0	0.0	0.0	0.0
ROA (%)	65.0	2.0	3.1	3.8
ROE (%)	106.7	3.2	4.7	5.7
ROIC (%)	45.2	41.3	48.6	65.9
Debt-to-equity ratio (%)	40.2	39.4	38.3	36.7
Current ratio (%)	140.9	133.1	159.1	189.4
Net debt-to-equity ratio (%)	1.6	-3.5	-8.5	-13.8
Interest coverage ratio (x)	29.3	18.3	20.3	24.7

# Appendix 1

## Important disclosures and disclaimers

### Two-year rating and TP history

Company	Date	Rating	TP (W)
NAVER (035420)	02/06/23	Buy	280,000
	11/08/22	Buy	250,000
	08/08/22	Buy	340,000
	07/14/22	Buy	320,000
	05/31/22	Buy	380,000
	01/03/22	No Coverage	
	10/22/21	Buy	510,000
	07/07/21	Buy	550,000
	01/29/21	Buy	490,000



### 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	85.18%	8.89%	5.19%	0.74%
Investment banking services	83.33%	16.67%	0%	0%

\* Based on recommendations in the last 12-months (as of December 31, 2022)

### Disclosures

As of the publication date, Mirae Asset Securities Co., Ltd. and/or its affiliates own 1% or more of NAVER's shares outstanding.

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