SECTOR UPDATE

2026. 5. 12

Alternative Investment Team

Kyungja Lee
Team Leader
kyungja.lee@samsung.com

Jumi Hong
Research Associate
jumi14.hong@samsung.com

Scan to go to
Research Center report database

REITs (OVERWEIGHT)

Overview of REITs' borrowing status and LTVs

- The diversification of funding structures should help mitigate stress amid ongoing market uncertainty.
- JR Global REIT's filing for corporate rehabilitation should not be treated as an industry-wide issue. Instead, it should accelerate differentiation among top-tier REITs.

WHAT'S THE STORY?

Funding concerns: After JR Global REIT filed for corporate rehabilitation, investor sentiment toward the REIT sector soured. REITs have traditionally funded operations through collateralized bank loans, corporate bonds, and short-term bonds. Equity financing—*eg*, rights offerings and convertible bonds—has also been used, but its role has diminished sharply since 2025 as REITs seek to minimize shareholder dilution. Among REITs rated A+ or higher, corporate bond issuance has expanded, supported by lower funding costs compared to collateralized bank loans and the ability to preserve collateral. In 2025, REITs rated AA were able to issue corporate bonds at spreads of more than 100bps below collateralized loan rates, making a meaningful contribution to DPS growth. Short-term bonds—typically with three-month maturities—have served as a flexible funding option before long-term bond issuance. The market's concern is not currently on collateralized loans but on debt financing more broadly.

Diversifying funding structures: As corporate bond yields have risen this year, REITs have increasingly turned to short-term bonds as an alternative. Even under conservative assumptions, issuance conditions for REITs rated A+ or higher remain stable. Major issuers planning to issue short-term bonds in 2Q include SK REIT (KRW300b) and Hanwha REIT (KRW160b; to fund the E-mart Tower acquisition). Although D&D Platform REIT and NH All One REIT are rated A-, they are not expected to face significant challenges, given their planned asset sales. That said, market instability could still push short-term rates higher. To mitigate this risk, REITs are actively diversifying their funding mixes—preserving unused revolving credit lines, maintaining access to private placements, and retaining collateralized loan capacity.

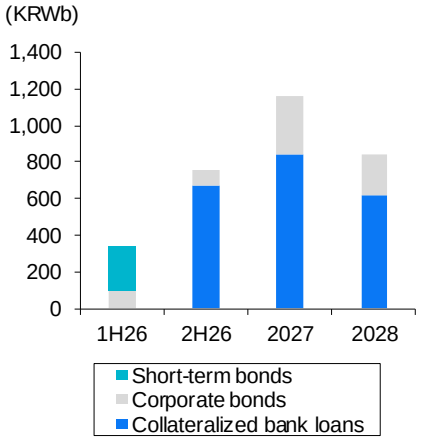
LTV ratios managed below 60%: The market is concerned about cash traps in overseas properties, where dividends were suspended after LTVs exceeded lender-agreed limits, as well as the risk of being unable to secure funding. Korean REITs with domestic assets differ materially, however, benefiting from stronger liquidity and better tenant management than overseas assets. Based on fair-value assessments, Korean REITs' average LTV is around 57%, which is not excessive.

(Continued on the next page)

Also, because these assets are not revalued regularly, some properties may be undervalued on the books, meaning true LTVs could be even lower. Korean REITs appear to have higher LTVs than peers in major markets largely because of structural differences. Japanese REITs have reflected rising asset values over their long history. In Singapore, REITs typically hold leasehold properties leased from the government rather than owning land outright; because buildings depreciate over time, more-conservative LTV limits are applied. In Korea, REITs are likely to focus not only on limiting borrowing, but also on narrowing the gap between book value and intrinsic value through regular fair-value appraisals. SK REIT is leading this trend: since adopting a fair-value accounting model in 2025, it has improved its financial ratios and strengthened investor confidence in its assets. Other REITs are now evaluating similar approaches.

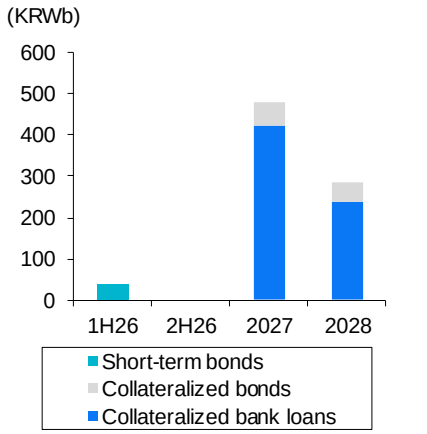
Differentiation to accelerate: Although the REIT market has seen broad-based declines, differentiation is likely to emerge, favoring top-tier REITs with strong capital-raising capabilities. Investors should avoid treating the JR Global REIT incident as an industry-wide issue. It was an exceptional case, characterized by insufficient hedging against currency settlement risk and asset value depreciation. Sponsored REITs, where sponsors hold 30-50% stakes, should increasingly be viewed as more credible. In the short term, meaningful capital-raising activity in May could help stabilize the market. Our top picks remain SK REIT and Hanwha REIT.

SK REIT: Debt maturity profile



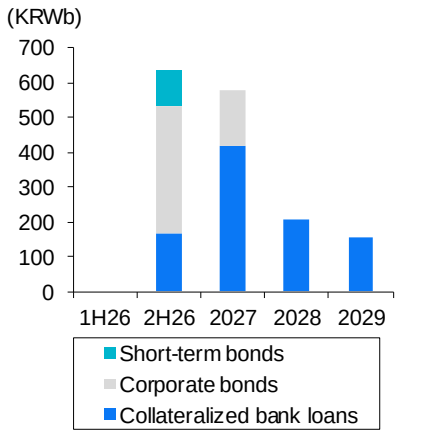
Source: Company data, Samsung Securities

Hanwha REIT: Debt maturity profile



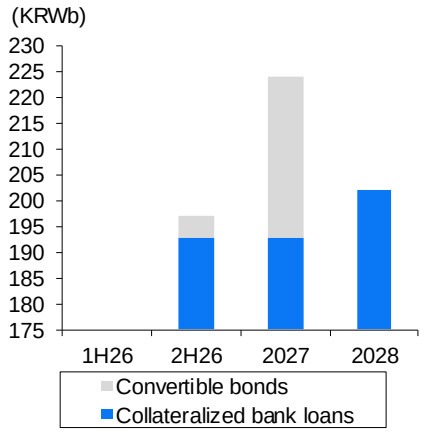
Source: Company data, Samsung Securities

Lotte REIT: Debt maturity profile



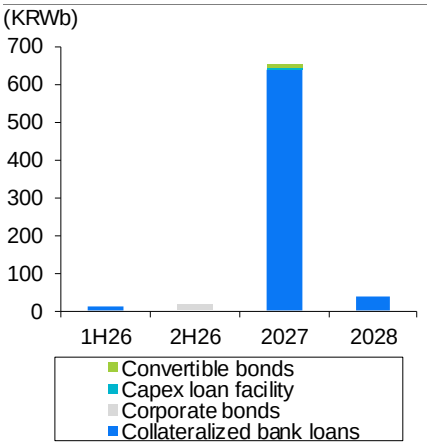
Source: Company data, Samsung Securities

Shinhan Seobu T&D REIT:
Debt maturity profile



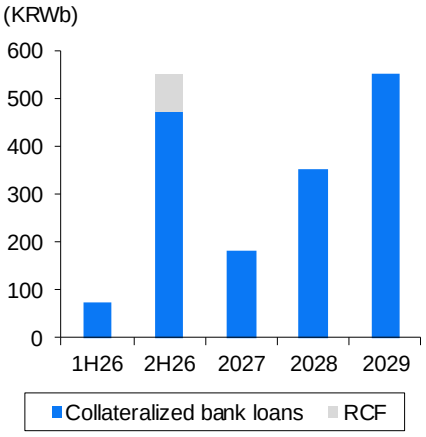
Source: Company data, Samsung Securities

Koramco Life Infra REIT:
Debt maturity profile



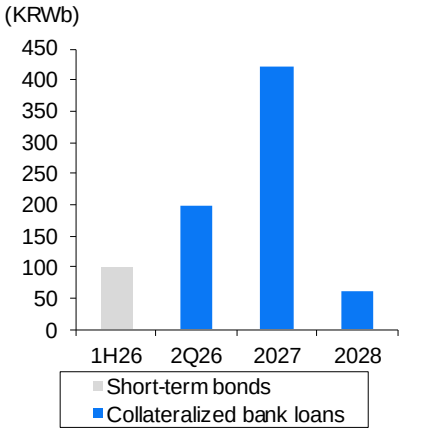
Source: Company data, Samsung Securities

ESR Kendall Square REIT:
Debt maturity profile



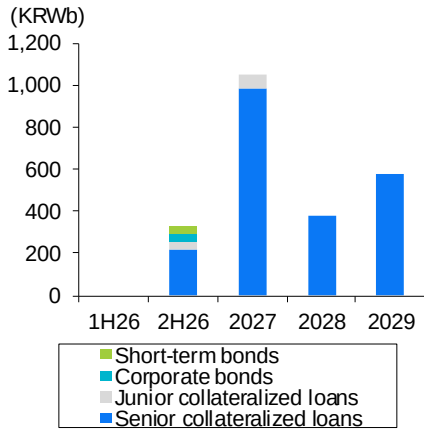
Source: Company data, Samsung Securities

D&D Platform REIT:
Debt maturity profile



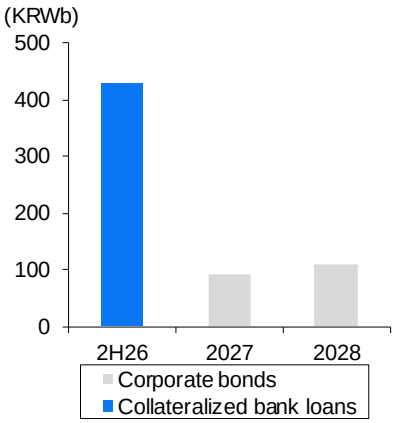
Source: Company data, Samsung Securities

Shinhan Alpha REIT:
Debt maturity profile



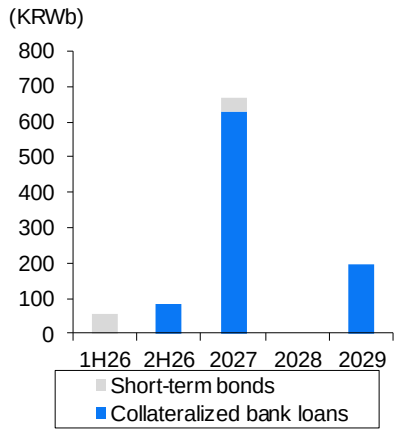
Source: Company data, Samsung Securities

Samsung FN REIT:
Debt maturity profile



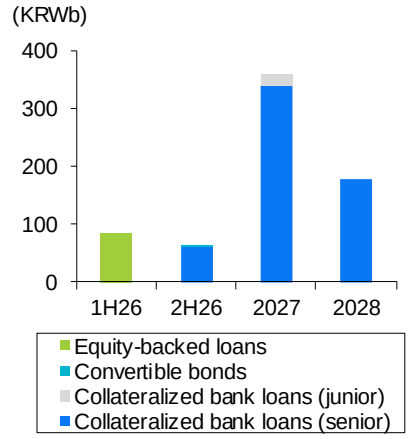
Source: Company data, Samsung Securities

IGIS Value Plus REIT:
Debt maturity profile



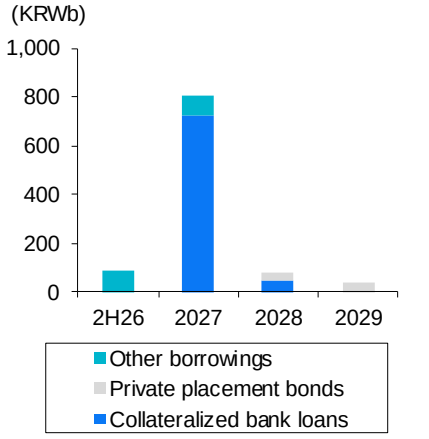
Source: Company data, Samsung Securities

NH All One REIT:
Debt maturity profile



Source: Company data, Samsung Securities

KB Star REIT:
Debt maturity profile

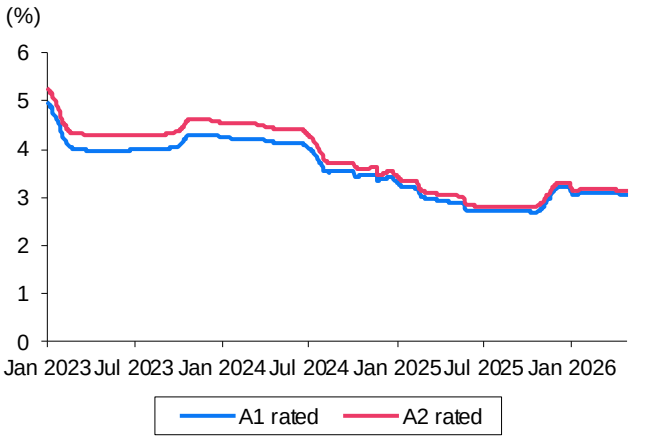


Source: Company data, Samsung Securities

Currently, the spread on commercial paper rates between issuers rated A1 and A2 is minimal. For REITs, however, the interest-rate differential between A1 and A2 ratings is likely to widen in the near term.

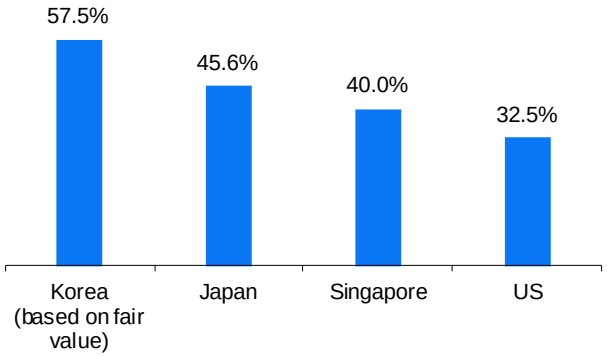
The average LTV ratio of Korean listed REITs backed by domestic assets stands at 57.5% based on fair value—generally below the regulatory lending ceiling of 60%. However, because most REITs—except SK REIT—do not conduct regular fair-value assessments, with asset valuations typically updated only at acquisition or during refinancing cycles every 2-3 years, we believe a significant portion of their assets is undervalued on the books relative to current market value. The REIT industry is cautiously evaluating the adoption of periodic fair-value assessments. Such measures should help narrow the gap between book value and intrinsic value, though the associated costs are not immaterial.

Commercial paper rates



Source: Korea Financial Investment Association, Samsung Securities

Listed REITs: LTV ratios, by market



Note: Based on asset-weighted average LTV ratios for REITs holding domestic assets
Source: Company data, NAREIT, Japan REITs, SGX Chartbook, Samsung Securities

Below, we summarize the debt profiles and maturity schedules of major REITs. REITs planning refinancing or new borrowing in May include SK REIT, NH All One REIT, Hanwha REIT, IGIS Value Plus REIT, and D&D Platform REIT. KB Star REIT recently completed a KRW100b rights offering, using KRW10b of the proceeds to repay short-term bonds maturing in late April. The remaining proceeds are earmarked for early repayment of other borrowings maturing in November.

D&D Platform REIT and NH All One REIT should face no material constraints in issuing short-term bonds in May, as clear progress on asset sales—Semicolon Mullae and A1 Dangsan, respectively—has significantly improved liquidity visibility.

SK REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	442	3.57	Jul 2027	Seorin Building / 3yr / CD91+75bps
	401	3.57	Jul 2027	Gas stations / 3yr / CD+75bps
	154	3.62	Jun 2028	U Tower / 3yr / CD+80bps
	245	3.67	Oct 2028	Jongno Tower / 3yr / CD+85bps
	216	3.71	Nov 2028	P Tower / 3yr / CD+90bps
	330	5.49	Sep 2026	Water treatment facility Tr.A / 3yr / AAA financial bond+115bps
	340	4.21	Sep 2026	Water treatment facility Tr.B / 3yr / CD91+140bps
Corporate bonds	10	4.33	Feb 2027	Issuance 3 (private)
	95	4.00	May 2026	Issuance 4-2 (public)
	90	3.43	Oct 2026	Issuance 5-1 (public)
	60	3.51	Oct 2027	Issuance 5-2 (public)
	130	3.32	Feb 2027	Issuance 6-1 (public)
	140	3.37	Feb 2028	Issuance 6-2 (public)
	120	2.99	May 2027	Issuance 7-1 (public)
	90	3.06	May 2028	Issuance 7-2 (public)
Short-term bonds	150	3.26	May 2026	Issuance 27
	100	3.26	Jun 2026	Issuance 28
Total	3,113	3.79		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

Hanwha REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans (senior)	100	3.90	Sep 2027	Jangkyo building / 2yr
	322	4.07	Sep 2027	Jangkyo building / 3yr / CD3m+125bps
	237	4.21	Aug 2028	Yeouido Hanwha Non-life Insurance building / 3yr / CD3m+145bps
Collateralized bonds	60	2.95	Sep 2027	Hanwha Life Insurance / 2yr / Issuance 2-1
	50	3.00	Sep 2028	Hanwha Life Insurance Pyeongchon, Guri, Jungdong offices / 3yr / Issuance 2-2
Short-term bonds	40	3.46	Jun 2026	
Total	808	3.91		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

Lotte REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized corporate bonds	160	3.45	Aug 2026	Lotte Department Store Gangnam Branch / 2yr
	80	2.89	Aug 2026	Lotte Department Store Gangnam Branch / 1yr
	50	3.10	Oct 2026	Lotte Outlet Icheon Branch / 1yr
	75	3.48	Oct 2026	Lotte Outlet Icheon Branch / 2yr
	160	3.26	Apr 2027	Lotte Mart Uiwang Branch, Lotte Mart/Outlet Daegu Yulha Branch / 2yr
Collateralized bank loans	165	3.75	Sep 2026	L7 Gangnam / 2yr (fixed)
	258	3.83	Sep 2027	Lotte Mart Gyeyang/Chuncheon/Yangpyeong Branch, Lotte Department Store Ansan Branch, Lotte Mart Mall Gimpo Logistics center / 3yr / CD+1%pt (floating)
	160	3.55	Apr 2027	Lotte Department Store Changwon Branch, Lotte Mart Janyu Branch / 2yr / CD+0.87%pts (floating)
	130	3.64	Oct 2028	Lotte Mart Guri Branch, Lotte Mart/Outlet (west) Cheongju Branch / 2yr / CD+0.95%pts (floating)
	75	3.88	Mar 2028	Lotte Department Store Jungdong Branch / 2yr / CD+1.05%pts (floating)
	159	3.73	Jan 2029	L7 Hongdae / 3yr / CD+1.05%pts (floating)
Short-term bonds	107	4.05	Jul 2026	Rollover completed for bonds that matured in April
Total	1,579	3.60		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

Shinhan Seobu T&D REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	193	4.64	Nov 2026	Incheon Square 1 / CD+183bps
	92	4.90	Jun 2027	Grand Mercure / 4.9% (fixed)
	202	4.20	Mar 2028	Gwanghwamun G Tower / 4.2% (fixed)
	87	4.50	May 2027	Mapo / senior
	14	5.90	May 2027	Mapo Hotel / junior
Convertible bonds	4	4.00	Sep 2026	Acquisition of Ninetree Dongdaemun (coupon 4% / YTM 5% / remaining from initial issuance of KRW20b)
	31	3.00	Feb 2027	Acquisition of Gwanghwamun G Tower (coupon 3% / YTM 6% / total issuance of KRW35b)
Total	622	4.46		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

Koramco Life Infra REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	466	4.05	Jun 2027	Gas stations
	12	4.24	Mar 2026	Jukjeon logistics center
	170	4.20	Aug 2027	South Cheongna logistics center
	34	4.32	Oct 2028	Mid-sized hotels, Aneuk Hotel Hongdae, Guro, Guwol
	5	4.70	Feb 2028	Bundang La Forte Seohyeon No.2 parking facility
Private corporate bonds	20	4.40	Jul 2026	South Cheongna logistics center
Capex loan facility	7	5.00	Jun 2027	
Convertible bonds	11	3.50	Feb 2027	
Total	725	4.12		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

ESR Kendall Square REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	362	4.12	Dec 2026	Child REIT 1- Yongin 1, Kimhae 1, Bucheon (cold), Icheon 2,3,6
	457	4.16	May 2029	Child REIT 1- Goyang, Anseong 1, Icheon 10
	139	3.70	Mar 2027	Fund (Pyeongtaek, Yongin 2,3) average borrowing rate
	352	3.98	May 2028	Child REIT 2- Kimhae 2, Anseong 2,3,4
	115	2.70	Dec 2026	Child REIT 2- Icheon 5 / fixed
	45	3.98	Oct 2027	Child REIT 1- Icheon 8
	73	4.41	May 2026	Child REIT 2- Icheon 7
	47	4.01	Apr 2029	Child REIT 3- Cheonan 1
	49	4.51	Apr 2029	Child REIT 3- Icheon 9
Revolving credit facility	78	3.57	Aug 2026	
Total	1,716	3.91		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

D&D Platform REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	355	4.30	May 2027	Mullae / fixed
	62	4.87	Sep 2026	Yongin1 / fixed
	50	5.00	Apr 2028	Yongin2 / fixed
	12	5.50	Apr 2028	Yongin2 / fixed
	96	4.40	Dec 2026	Myeongdong / fixed
	58	4.00	Apr 2027	Susong / senior / fixed
	9	6.00	Apr 2027	Susong / subordinated / fixed
	41	0.60	Aug 2026	Japan Odawara FC / fixed
Revolving credit facility	78	4.30	May 2026	Parent REIT / fixed
	22	4.80	Jun 2026	Parent REIT / fixed
Total	782	4.24		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

Shinhan Alpha REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans (senior)	575	4.30	Apr 2029	Greits Pangyo / 4.3%
	159	3.90	Sep 2027	Shinhan L Tower / 3.9% (fixed)
	165	4.00	Aug 2028	Twin City Namsan / 4.0% (fixed)
	103	4.56	Mar 2027	Yeoksam / CD+175bps
	219	3.00	Sep 2026	Sungnye / 3.0% (fixed)
Collateralized bank loans (junior)	35	4.50	Sep 2026	Sungnye / 4.5% (fixed)
Collateralized bank loans (senior)	35	4.07	Feb 2028	Yongsan Asterium / 4.07% (fixed)
	60	4.61	Dec 2028	Greits Cheong / CD+180bps
	120	4.61	Dec 2028	HSBC / CD+180bps
	280	4.75	Jul 2027	City Square / 4.75% (fixed)
	131	4.21	Jun 2027	GS Seocho / CD+140bps
	308	3.90	Jun 2027	BNK / 3.9% (fixed)
Collateralized bank loans (junior)	72	5.50	Jun 2027*	Greits Gangnam/ 5.5% (fixed)
Corporate bonds (private)	40	4.30	Sep 2026	
Short-term bonds	40	4.40	Jul 2026	
Total	2,341	4.20		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate; *scheduled for early repayment in May 2026
Source: Company data

Samsung FN REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	349	3.95	Sep 2026	Daechi Tower/S1 Building / CD+1.1%pts (coupon) (floating)
	81	3.95	Sep 2026	Samsung Fire & Marine Insurance Pangyo Offices / CD+1.1%pts (coupon) (floating)
Unsecured bond	90	3.97	Sep 2027	1.5yr (fixed) / Issuance 1-1
Unsecured bond	110	4.24	Mar 2028	2yr (fixed) / Issuance 1-2
Total	630	4.00		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

IGIS Value Plus REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	117	2.80	Jan 2027	Taepyeongno Building /senior
	7	3.00	Jan 2027	Taepyeongno Building / senior
	10	5.50	Jan 2027	Taepyeongno Building / junior
	36	4.42	Oct 2026	Icheon YM / CD+1.6% (scheduled to be sold)
	19	5.00	Oct 2027	Bundang IDC
	42	3.00	Nov 2026	Isu Chemical Office / senior
	3	4.40	Nov 2026	Isu Chemical Office / junior
	381	4.30	Dec 2027	Twin Tree Tower / senior
	21	5.50	Dec 2027	Twin Tree Tower / junior
	73	4.00	Dec 2027	Samsung Heavy Industries Offices
	194	3.39	Oct 2026-Jan 2033	Reflects 5.1% stake of IDC in North America
Short-term bonds	55	4.20	May 2026	Issuance 6
	40	4.60	Feb 2027	Issuance 7
Total	997	3.92		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

NH All One REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans (senior)	177	4.00	Apr 2028	Bundang Square
	151	3.94	May 2027	Hite Jinro Seocho Office
	93	4.00	Apr 2027	Dangsan
	69	4.00	Apr 2027	N Square
	28	3.89	Aug 2027	Geumnam, Gwangju / Refinancing completed (2-year extension; 4.81% → 3.89%)
	60	3.71	Nov 2026	Doji logistics; refinancing planned
Collateralized bank loans (junior)	20	5.50	May 2027	Hite Jinro Seocho Offices
Convertible bonds	2	4.00	Aug 2026	For repayment of equity-backed loan
Equity-backed loan	85	5.50	May 2026	
Total	685	4.19		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

KB Star REIT: Debt profile

Classification	(KRWb)	Interest rate (%)	Maturity	Note
Collateralized bank loans	423	1.20	May 2027	North Galaxy Towers / 75% of EUR323.7m / 1.2% (fixed)
	141	3.23	May 2027	North Galaxy Towers / 25% of EUR323.7m / 1.2% + EURIBOR 3M (floating)
	49	5.93	Jan 2028	Samsung Europe HQ / GBP27.12m / 2% + daily SONIA rate (floating)
	78	4.83	Sep 2027	Citibank Center / KRW99.5b (senior) / 4.80% (fixed) / KRW2.4b (subordinated) / 6.0% (fixed)
	48	3.91	Nov 2027	Signature Tower / KRW677.3b (senior) / 3.80% (fixed) / KRW67.2b (subordinated) / 5.0% (fixed)
	35	3.88	Dec 2027	Yeouido Finance Tower / KRW237.2b (senior) / 3.8% (fixed) / KRW20b (subordinated) / 4.8% (fixed)
Privately placed bonds	30	5.40	May 2028	Unsecured / fixed
(unsecured)	35	5.90	Jan 2029	Unsecured / fixed
Other borrowings	85	4.50	Nov 2026	Unsecured (loan securitization SPC) / fixed
	80	4.50	Nov 2027	Unsecured (loan securitization SPC) / fixed
Total	1,005	3.05		

Note: A CD91 rate of 2.82% as of May 5 was applied as the benchmark floating rate
Source: Company data

Listed REITs: LTV and NAV

Ticker (KRWb)	REIT	Appraisal date	LTV		Acquisition price	Fair value	Debt	NAV	P/NAV (x)
			Acquisition price	Fair value					
A395400	SK REIT	Dec 2025	69.10%	58.80%	4,506	5,292	3,113	2,179	0.83
A330590	Lotte REIT	Mar 2026	54.50%	45.50%	2,896	3,473	1,579	1,894	0.62
A365550	ESR Kendall Square REIT	Feb 2026	64.00%	56.20%	2,680	3,056	1,716	1,340	0.77
A293940	Shinhan Alpha REIT	Dec 2025	74.50%	60.50%	3,143	3,869	2,341	1,179	0.59
A357120	Koramco Life Infra REIT	Dec 2025	56.40%	42.70%	1,285	1,698	725	973	0.44
A377190	D&D Platform REIT	Apr 2026	73.60%	59.70%	1,063	1,310	782	528	0.49
A404990	Shinhan Seobu T&D REIT	Dec 2025	61.20%	55.40%	1,016	1,123	622	471	0.54
A417310	Koramco The One REIT	Mar 2025	60.10%	47.50%	486	615	292	323	1.28
A334890	IGIS Value Plus REIT	Mar 2026	80.80%	60.20%	1,235	1,585	997	588	0.47
A400760	NH All One REIT	Jun 2025	69.50%	52.60%	859	1,136	598	539	0.33
A451800	Hanwha REIT	May 2026	55.00%	46.30%	1,469	1,747	808	939	1.02
A432320	KB Star REIT	May 2026	53.20%	62.90%	1,458	1,233	775	458	0.45
A350520	IGIS Residence REIT	Dec 2025	93.70%	55.70%	777	1,306	728	578	0.24
A448730	Samsung FN REIT	Dec 2025	62.30%	59.40%	1,011	1,061	630	431	1.17

Note: Includes both asset-level borrowings and REIT-level borrowings; appraisal date does not represent the appraisal date for all assets; IGIS Value Plus REIT reflects the value of the North America Data Center asset (5.1% stake) within its portfolio at 0
Source: Company data, Samsung Securities

Compliance notice

- As of 5/11 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 5/11 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.

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.

Copyright © 2010 Samsung Securities Co., Ltd.. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the prior written consent of Samsung Securities America Inc

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

Member of
Dow Jones
Sustainability Indices
Powered by the S&P Global CSA