Real Estate Research

October 2024



APAC Real Estate Debt Market Update

October 2024

IN A NUTSHELL

- CRE debt yield spreads have remained relatively wider in 2023 and 2024 from a historical perspective. Discussions
 are ongoing regarding the extent to which central banks could lower rates even after the pivot in September 2024.
- In stark contrast to a significant decline in overall fundraising of real estate funds globally, the APAC region experienced record fundraising activity for debt strategies, primarily driven by Australia and India, followed by Japan and Korea.
- In Australia, CRE private debt markets have become an increasingly important source of debt for borrowers, particularly for refinancing and development/capital works funding. For investors, a shift from 'fixed' to 'floating with a floor' rate structures tied to the 90-day BBSW could potentially provide a significant inflation hedge to mitigate interest rate risk.
- Indian CRE lending has seen a structural shift of dominant lenders from Non-Banking Financial Companies (NBFCs) and Housing Finance Companies (HFCs) to the banking industry and private lenders. Mumbai, Delhi NCR, and Bengaluru collectively account for 80% of the entire CRE lending region-wide.
- With the resilient CRE lending market in South Korea over the last 18-24 months, there are two divergent trends in fundraising: local asset managers focusing on senior loans with a 6% target return, and foreign managers targeting higher risk profiles with 10-15% target returns.

Looking Back 2023-2024 from Commercial Real Estate Lending Perspective

2023 was marked by a strong focus on inflation, particularly in developed markets. While Japan and China were exceptions, the rest of the markets in the US, Europe, and APAC were primarily concerned with inflation and the actions of central banks. The year saw numerous loan maturities in the commercial real estate (CRE) market, many of which were amended and extended where possible, leading to the recapitalization of some loans. At the same time several instances of loan default took place, especially in the distressed US office sector, though this did not lead to the full devastation of the CRE lending market.

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services. There may be references in this document which do not yet reflect the DWS Brand.

Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflects our current views only, is subject to change, and is not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

Marketing Material. In EMEA for Professional Clients (MiFID Directive 2014/65/EU Annex II) only; no distribution to private/retail customers. In Switzerland for Qualified Investors (art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). In APAC for institutional investors only. In Australia and New Zealand for Wholesale investors only. In MENA: For professional Clients. Further distribution of this material is strictly prohibited. For business customers only. In North America, for institutional use and registered representative use only. Not for public viewing or distribution. In Israel for Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda.

We began 2024 with relative optimism that central banks would reduce interest rates by mid-year. However, there has been a divergence between the US Federal Reserve's projections and market expectations. While market participants anticipated earlier and sharper movements, the Fed has consistently communicated a slow pace for rate reductions, with inflation higher than anticipated. This has also impacted the pivot schedules of other central banks. Consequently, CRE lending yield spreads have remained relatively wider from a historical perspective, reflecting the continuous elevated risk in the CRE market. The situation varies significantly by sector and market in APAC.

In September 2024, we finally saw the pivot with the US Fed's rate cut of 50 basis points, while discussions are ongoing regarding the timing and extent to which central banks could lower rates or adjust their strategies toward 2025. At the same time, we have witnessed a continuous wave of CRE debt fund launches in APAC over the last 18-24 months, driven by attractive risk-adjusted returns and structural shifts in domestic banking conditions. At this critical juncture, it is an opportune time to reassess the CRE debt strategy to determine its attractiveness and sustainability in the mid to long term.

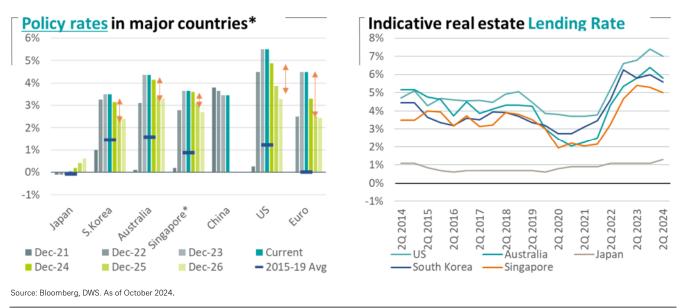


EXHIBIT 1: POLICY RATES AND INDICATIVE REAL ESTATE LENDING RATES IN MAJOR COUNTRIES

APAC CRE Debt Fundraising

Despite the growing appeal of the CRE debt strategy within institutional investor portfolios, 2023 saw a significant decline in overall capital commitments to private real estate funds at the global level. This decline overshadowed the momentum for debt strategies also globally, as institutional investors faced challenges such as weak performance, limited liquidity, and the impact of the denominator effect on their portfolios.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can falls as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS Investment GmbH.

However, the APAC region experienced record fundraising activity for the debt strategy, amounting to USD 4.5 billion in 2023 and USD 2.5 billion in the first half of 2024. This surge was primarily driven by Australia and India, followed by Japan and Korea. Notably, 4 out of 5 CRE debt funds with a fund size exceeding USD 1 billion in the region have been launched since 2021, bringing the total fundraising amount to USD 9.7 billion between 2022 and 2024.

This coincides with ongoing structural changes in the banking system in key APAC markets, where regulators are pushing for traditional lenders to reduce exposure in the CRE space. Although the pressure for immediate debt liquidation is much lower in APAC compared to the US, this is a long-term trend which we expect to lead to the institutionalization of private credit lenders in the CRE lending market. However, it also requires global alternative lenders to localize their operations to remain relevant through economic cycles, given the symbiotic nature of the lending business.

It is noteworthy that the main targets of newly launched debt funds vary significantly by market, with a weaker common focus across the region. For example, recently launched CRE debt funds in India are primarily focusing on distressed BTS residential development projects struggling with liquidity shortages. In contrast, in Australia and South Korea, these funds are more targeted towards refinancing whole loans for existing assets or providing construction loans for new development projects. Lending opportunities remain rare in Japan, although some funds are actively seeking opportunistic lending opportunities, including assets under distress or those with extremely high LTV profiles up to 80%, referred to as deep mezzanine.

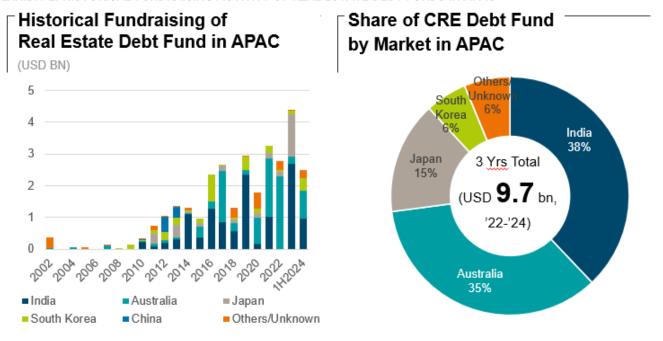


EXHIBIT 2: HISTORICAL FUNDRAISING ACTIVITY OF REAL ESTATE DEBT FUNDS IN APAC

Source: Real Capital Analytics, Bank of Japan, FISIS, APRA Quarterly ADI Property Exposures, DWS. As of October 2024.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can falls as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS Investment GmbH.

Australia

The private debt market in Australia has experienced significant growth over the past couple of years increasing from \$33bn (2016)¹ to \$188bn (2023)². While Commercial real estate (CRE) lending accounts around 40% of the total private debt market, it is within its infancy in the CRE lending space at a 16% market share², well below the UK and US markets.

There is a mutual benefit in the CRE private debt market for lenders, borrowers and investors which support the fundamentals of the overall sector. The introduction of international banking reforms post GFC has led to increased capital requirements, tighter lending, and greater risk aversion amongst traditional bank lenders, which act as a high barrier to entry for mid-lower rated borrowers. This has opened a gap in the market for non-bank lenders within the Senior, Junior/Mezzanine, and construction loan segments. For lenders, Australia's insolvency laws further support the attractiveness of the CRE private debt market with a 'prioritisation' of creditors interests over debtors, which allow for a greater degree of control in the event of a default/insolvency scenario.³

For borrowers, CRE private debt markets have become an increasingly important source of debt to assist with tighter ICR scenarios and leverage shortfalls, particularly for re-financing and development/capital works funding. Non- bank lenders operate outside the restrictions which govern traditional banks, which allows for more favorable lending conditions for borrowers. In Australia non-bank lenders generally accept an LTV of 65%+ and ICR of 1.1-1.25x compared to traditional banks which typically require 50-60% and 1.5-1.75x respectively⁴. Today lending conditions within the residential and industrial sectors are more favorable given market resilience and tailwinds. While non-bank lending margins are typically higher between 5-6% for a senior loan compared to traditional bank lending between 1.5-1.7%, the ability for borrowers to draw down on 'cash' allows for a greater degree of flexibility throughout the loan term.

The CRE private debt market presents an attractive opportunity for investors. The CRE private debt market has seen a shift from 'fixed' to 'floating with a floor' rate structures to the 90-day BBSW, could potentially provide a significant inflation hedge to mitigate interest rate risk. Over the past 12 months, increased demand from institutional capital has seen Senior investment lending margins tighten, particularly for core locations, favorable sectors, and higher quality sponsors. Estimated target return of private lenders for senior loans currently sit between 9-10%, with the investment loan segment seeing more stretched-senior lending⁵ compared to Junior/mezzanine⁶. For construction lending, margins have increased reflective of construction industry challenges, however, provide an attractive risk/return opportunity for investors. Their estimated target returns for construction loans currently sit between 10-15% and closer to 20% for the Junior tranche⁷.

The outlook for the private debt market in Australia remains positive, with a turn in the economic cycle likely to see a pickup in commercial real estate transaction and lending activity. Increased capital allocation is expected into the CRE private debt space particularly from super funds, potentially by high risk adjusted returns with a lower correlation to fixed income and equities.

² ROC Partners Private Credit: An Australian Perspective 2022

¹ EY Australian Annual Private debt market update 2024

³ Foresight Analytics Strategic Research Insight March 2023

⁴ Foresight Analytics Strategic Research Insight March 2023

⁵ Stretched senior loans are typically up to 75% LVR with some mandates up to 80%, which include a revenue share at the back end.

⁶ DWS, as of October 2024

⁷DWS, as of October 2024

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can falls as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS Investment GmbH.



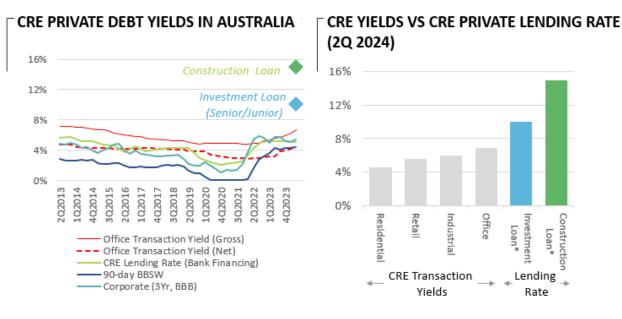


EXHIBIT 3: CRE PRIVATE LENDING RATES AND COMPARISON WITH TRANSACTION YIELDS IN AUSTRALIA (2Q 2024)

Source: Bloomberg, RBA, Colliers, DWS. As of October 2024. Senior Loan

ource: DWS. As of October 2024. *Indicative of a lending yield of

India

India's real estate sector is experiencing significant growth, driven by the country's robust economic performance, with a projected GDP growth of 7% for FY24. The increasing demand for real estate development funding presents substantial opportunities for lenders, while the biggest difference between India and other markets is that the Indian CRE debt market had been led by Non-Banking Financial Companies (NBFCs) and Housing Finance Companies (HFCs), with other lender groups including banking sector and private lenders accounting for less than half of the entire lending market until recently.

The shift in debt lending from NBFCs and HFCs to banking and private credit was primarily triggered by the IL&FS crises in 2018⁸. These events led to a significant reduction in the exposure of NBFCs and HFCs to the real estate sector, prompting developers to seek alternative funding sources. Also, multiple regulatory reforms⁹ have enhanced transparency, boosted investor confidence, protected consumer rights, and created a more efficient and trustworthy market.

Post the COVID-19 pandemic, the real estate sector has seen a resurgence, with banks now leading the market with 68% of debt approved in 2023. Additionally, the share of Alternative Investment Funds lending has increased from 7% to 13%, reflecting the

⁸ IL&FS crisis: Infrastructure Leasing & Financial Services (IL&FS) is a non-banking financial company (NBFC). Established over 30 years ago, the conglomerate funds infrastructure projects across India, while it fell short of cash and defaulted on several of its obligations in 2018. It significantly impacted ongoing infrastructure and real estate development projects, as banks became reluctant to release finances for those projects and investors withdrew substantial sums of investments from NBFCs, especially housing lending institutions.

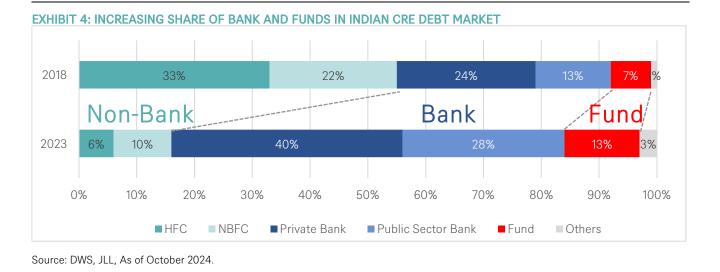
⁹ Real Estate Regulatory Authority (RERA), Goods and Services Tax (GST), and the Insolvency and Bankruptcy Code (IBC)

All data and forecasts in this "India" section per JLL (Decoding Debt Financing: Opportunities in Indian Real Estate) as of 06/20/2024 unless otherwise noted.

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can falls as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS Investment GmbH.

growing role of private credit in the sector. Region-wide, Mumbai, Delhi NCR, and Bengaluru have collectively accounted for 80% of the debt allocated in India's real estate sector, totaling \$115 Bn. Mumbai leads with a 40% share of the debt, followed by Delhi NCR at 21% and Bengaluru at 19%.¹⁰

According to JLL, India's real estate debt market is projected to reach USD 170 billion between 2024-2026. This growth is primarily driven by construction finance and distress sales dubbed as "Lease Rental Discounting (LRD)." The residential market alone is slated to require nearly USD 52 billion in long-term debt by 2026, while the overall real estate construction market is expected to grow by 35-40%, totaling USD 66 -72 billion. There is a gap of approximately USD 18 BN between required and approved debt in construction finance, primarily in the residential sector. The LRD market in the commercial segment is projected to exceed USD 96 BN by 2026, with a 30% growth in the commercial office segment.¹¹



South Korea

Despite rumors of a potential credit crunch among vulnerable lenders, the CRE lending market in South Korea remained resilient throughout 2023 and the first half of 2024, with no notable losses in the senior debt of existing core assets. However, there have been some de facto defaults in development projects, particularly in the logistics sector. This has led lenders to allow unexpected extensions of maturity or even write-offs of the original valuations, keeping traditional lenders on the sidelines for construction and bridging loans. Also, traditional lenders, such as banks and insurance companies, are facing headline issues and changes in accounting standards. Since 2022, tightened BIS banking regulations and IFRS 17 accounting standards have made it more difficult for them to participate in construction loans, creating opportunities for alternative lenders.

In the last 12 months, indicative lending yields from lenders show that the recent illiquid premium of CRE lending has peaked but remains attractive in South Korea, especially for construction loans. For example, senior loan interest rates for prime core office properties have decreased to 4.8%-5.5% in the third quarter of 2024 from 5.5%-7.0% a year ago, compared to an average office cap rate of approximately 4.3%. Nonetheless, CRE lending remains more attractive compared to equity investments due to its lower repayment risk.¹²

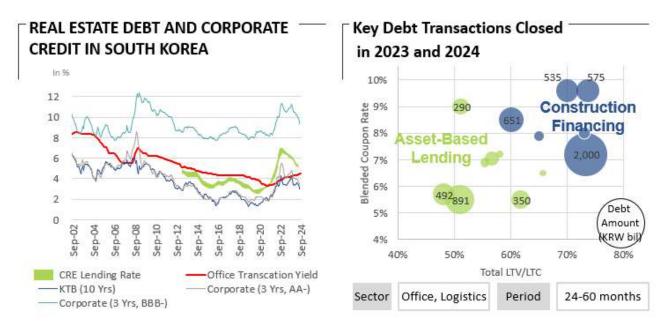
- ¹⁰ JLL, DWS. As of October 2024
- ¹¹ JLL, DWS. As of October 2024
- ¹² DWS. As of October 2024

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can falls as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS Investment GmbH.

Recent CRE debt fundraising activities focusing on senior loans have been led by local asset managers sponsored by large financial groups with strong business networks in the core space, targeting returns around 6%. In contrast, foreign asset managers have been focusing on higher risk profiles, including construction, bridging, or structured loans, with estimated target returns of 10%-15%.¹³ The National Pension Service (NPS) is currently selecting a manager for its first domestic CRE debt blind fund since 2019, which is expected to be followed by other domestic institutional investors.

In terms of pipeline and sector, upcoming development plans and increasing investment volumes in the office sector could create attractive debt investment opportunities, supported by a tight office vacancy rate below 2% and Seoul's strong office utilization rate which is the highest globally. The logistics sector has seen oversupply, but demand remains strong. Generally, there is an equalization of yield in these markets, offering high-quality assets for first mortgage lending, potential for high cash-on-cash returns, and total returns.

EXHIBIT 5: REAL ESTATE DEBT YIELDS AND RECENT DEBT TRANSACTIONS IN SOUTH KOREA



Source: DWS, Oxford Economics, Bank of Korea, As of October 2024.

¹³ DWS. As of October 2024

This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, opinions, and hypothetical models that may prove to be incorrect. Investments come with risk. The value of an investment can falls as well as rise and your capital may be at risk. You might not get back the amount originally invested at any point in time. Source: DWS Investment GmbH.

Real Estate Research Team

Office Locations

Frankfurt

Mainzer Landstrasse 11-17 60329 Frankfurt am Main Germany Tel: +49 69 71909 0

London

45 Cannon Street London, EC4m 5SB United Kingdom Tel: +44 20 754 58000

New York

875 Third Avenue 26th Floor New York NY 10022-6225 United States Tel: +1 212 454 3414

San Francisco

101 California Street 24th Floor San Francisco CA 94111 United States Tel: +1 415 781 3300

Singapore

One Raffles Quay South Tower 15th Floor Singapore 048583 Tel: +65 6538 7011

Tokyo

Sanno Park Tower 2-11-1 Nagata-cho Chiyoda-Ku 18th Floor Tokyo Japan Tel: +81 3 5156 6000

Sydney

Level 16, Deutsche Bank Place Corner of Hunter and Phillip Streets Sydney NSW 2000 Australia

Tel: +61 2 8258 1234

Teams

Global

Kevin White, CFA Global Co-Head of Real Estate Research **Simon Wallace** Global Co-Head of Real Estate Research

Americas

Brooks Wells Head of Research, Americas

Ross Adams Industrial Research

Europe

Ruben Bos, CFA Head of Real Estate Investment Strategy, Europe

Siena Golan Property Market Research

Carsten Lieser Property Market Research **Liliana Diaconu, CFA** Office & Retail Research

Sharim Sohail Self-Storage Research

Tom Francis Property Market Research

Rosie Hunt Property Market Research

Martin Lippmann Head of Real Estate Research, Europe

Asia Pacific

Koichiro Obu Head of Real Estate Research, Asia Pacific

Hyunwoo Kim Property Market Research Seng-Hong Teng Property Market Research

Matthew Persson Property Market Research

AUTHORS



Koichiro (Ko) Obu Head of Real Estate Research, Asia Pacific



Hyunwoo Kim Property Market Research

Risk Factors

All investments involve risk, including possible loss of principal. Private Credit, Direct Lending investments are "private" and may not be appropriate or available for retail investors in the U.S. Investments in Private Credit are subject to various risks including but not limited to market risk, general economic and market conditions, economic recession risk, inflation/deflation risk, and:

Counterparty risk – A financial institution or other counterparty that underwrites, distributes, or guarantees any private credit investments or contracts that the strategy owns or is otherwise exposed to, may decline in financial health, and become unable to honor its commitments. This could cause losses or could delay the return or delivery of collateral or other assets.

Prepayment and extension risk – When interest rates fall, issuers of high interest debt obligations may pay off the debts earlier than expected (prepayment risk), and the strategy may have to reinvest the proceeds at lower yields. When interest rates rise, issuers of lower interest debt obligations may pay off the debts later than expected (extension risk), thus keeping the strategy's assets tied up in lower interest debt obligations. Ultimately, any unexpected behavior in interest rates could increase the volatility of the strategy's yield and could hurt performance. Prepayments could also create capital gains tax liability in some instances.

Debt securities risk – Debt securities are subject to the risk of the issuer's or a guarantor's inability to meet principal and interest payments on its obligations and to price volatility.

Default risk – The issuers or guarantors of debt securities may fail to make payments or fulfil other contractual obligations.

Secured debt risk – Although secured debt generally will be secured by specific collateral, there can be no assurance that liquidation of such collateral would satisfy the borrower's obligation in the event of non-payment of scheduled interest or principal or that such collateral could be readily liquidated.

Second lien and subordinated loans risk- Second lien loans generally are subject to similar risks as those associated with investments in senior loans, and, because they are subordinated or unsecured and lower in priority of payment to senior loans, they are subject to additional risks, including the risk that the borrower may be unable to meet scheduled payments, price volatility, illiquidity, and the inability of the originators to sell participations in such loans.

Private investment risk - Private investments are highly competitive, less transparent, and illiquid.

PIK interest risk – Loans with a payment in kind ("PIK") interest component generally represent a significantly higher credit risk than coupon loans; may have unreliable valuations requiring continuing judgments about collectability and the value of any associated collateral; and the borrower could still default when the actual payment is due at maturity.

Direct Lending risk – The lender in privately offered debt is responsible for the expense of servicing that debt, including, taking legal actions to foreclose on any security instrument securing the debt. This may increase the risk and expense compared to syndicated or publicly offered debt.

Interest rate risk – In general, rising interest rates in the market will negatively affect the price of the direct lending investments. Sensitivity to a change in interest rates is more pronounced and less predictable in instruments with uncertain payment (or prepayment) schedules. Central bank monetary policy, rising inflation rates, and general economic conditions may cause interest rates to rise.

Illiquid portfolio investments risk - Private credit investments generally will be long-term and highly illiquid.

Valuation risk – There is no central place or exchange for private credit investments to trade. Uncertainties in financial market conditions, unreliable reference data, lack of transparency and inconsistency of valuation models and processes may lead to inaccurate pricing and other market participants may value direct lending investments differently.

High yield debt risk - High yield debt securities have historically experienced greater default rates than investment grade securities and are subject to additional liquidity and volatility risk.

Reinvestment risk – During periods of declining interest rates, an issuer of debt obligations may exercise an option to redeem prior to maturity, which could result in new investments with lower-yields.

Important information

For North America:

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.

This material was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. It is intended for informational purposes only. It does not constitute investment advice, a recommendation, an offer, solicitation, the basis for any contract to purchase or sell any security or other instrument, or for DWS or its affiliates to enter into or arrange any type of transaction as a consequence of any information contained herein. Neither DWS nor any of its affiliates gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Except insofar as liability under any statute cannot be excluded, no member of the DWS, the Issuer or any office, employee or associate of them accepts any liability (whether arising in contract, in tort or negligence or otherwise) for any error or omission in this document or for any resulting loss or damage whether direct, indirect, consequential or otherwise suffered by the recipient of this document or any other person.

The views expressed in this document constitute DWS Group's judgment at the time of issue and are subject to change. This document is only for professional investors. This document was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. No further distribution is allowed without prior written consent of the Issuer.

Investments are subject to risk, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time.

An investment in real assets involves a high degree of risk, including possible loss of principal amount invested, and is suitable only for sophisticated investors who can bear such losses. The value of shares/ units and their derived income may fall or rise.

Companies involved in artificial intelligence and big data face intense competition, may have limited product lines, markets, financial resources and personnel. Artificial intelligence and big data companies are also subject to risks of new technologies and are heavily dependent on patents and intellectual property rights and the products of these companies may face obsolescence due to rapid technological developments.

War, terrorism, sanctions, economic uncertainty, trade disputes, public health crises and related geopolitical events have led, and, in the future, may lead to significant disruptions in US and world economies and markets, which may lead to increased market volatility and may have significant adverse effects on the fund and its investments.

For Investors in Canada. No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein and any representation to the contrary is an offence. This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group. Without limitation, this document does not constitute an offer, an invitation to offer or a recommendation to enter into any transaction. When making an investment decision, you should rely solely on the final documentation relating to the transaction you are considering, and not the document contained herein. DWS Group is not acting as your financial adviser or in any other fiduciary capacity with respect to any transaction presented to you. Any transaction(s) or products(s) mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand such transaction(s) and have made an independent assessment of the appropriateness of the transaction(s) in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with DWS Group, you do so in reliance on your own judgment. The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates, and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Any projections are based on a number of assumptions as to market conditions and there can be no guarantee that any projecter results will be achieved. Past performance is not a guarantee of future results. The distribution of this document and availability of these produc

For EMEA, APAC, LATAM & MENA

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they do business. The DWS legal entities offering products or services are specified in the relevant documentation. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively "DWS") are communicating this document in good faith and on the following basis.

This document is for information/discussion purposes only and does not constitute an offer, recommendation, or solicitation to conclude a transaction and should not be treated as investment advice.

This document is intended to be a marketing communication, not a financial analysis. Accordingly, it may not comply with legal obligations requiring the impartiality of financial analysis or prohibiting trading prior to the publication of a financial analysis.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models, and hypothetical performance analysis. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements. Past performance is no guarantee of future results.

The information contained in this document is obtained from sources believed to be reliable. DWS does not guarantee the accuracy, completeness, or fairness of such information. All third-party data is copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast, or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks. Detailed information on risks is contained in the relevant offering documents.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid. DWS does not give taxation or legal advice.

This document may not be reproduced or circulated without DWS's written authority.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country, or other jurisdiction, including the United States, where such distribution, publication, availability, or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions

© 2024 DWS International GmbH Issued in the UK by DWS Investments UK Limited which is authorised and regulated by the Financial Conduct Authority (Reference number 429806)

© 2024 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited and the content of this document has not been reviewed by the Securities and Futures Commission. © 2024 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited and the content of this document has not been reviewed by the Monetary Authority of Singapore. © 2024 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640) and the content of this docu-ment has not been reviewed by the Australian Securities Investment Commission. © 2024 DWS Investments Australia Limited

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-

Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

For investors in Taiwan: This document is distributed to professional investors only and not others. Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security. The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed, and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction, or transmission of the contents, irrespective of the form, is not permitted.

© 2024 DWS Group GmbH & Co. KGaA. All rights reserved. (10/24) 103024 1.3