

The road ahead for direct lending

Supporting transformation and sustainability ambition



Michael Verhoeven
Product Specialist



Maria Milina
Research Analyst



Michael Lewis
Head of
Research ESG

IN A NUTSHELL

- The size of the private debt market globally is expected to grow to an all-time high of US\$2.8 trillion by 2028 with direct lending constituting roughly half of the total debt market¹
- Direct lending offers financing opportunities for the European transformation, such as in the digital transformation, where small- and medium-sized enterprises play an important role
- From a geographical perspective, Benelux and the Nordics are catching up with the traditional direct lending core markets of the UK, France, and Germany
- Geopolitical risk and muted economic growth have meant the sector focus for direct lending has been skewed towards non-cyclical sectors with technology and healthcare dominating the deal pipeline. A pick-up in lending to consumer facing sectors is now beginning to emerge
- We expect margins in direct lending to follow the repricings seen in the liquid market implying further tightening ahead². The driving force behind a more aggressive pricing strategy is the demand for deals that is anticipated to far exceed supply
- Sustainability linked loans have also become a route to support sustainability ambition among lenders and borrowers. These introduce certain KPIs such as carbon emission reduction or energy efficiency targets to the borrowing costs of the loan
- Efforts are underway to improve sustainability data collection, monitoring and verification which should introduce more transparency into the sustainability linked loan market where issuance has dropped significantly since its 2021 peak³

Introduction

The direct lending market has witnessed strong growth over recent years. In this article, we outline our assessment for the year ahead. We show how the direct lending market is evolving into an important financing vehicle to support the transformation of small- and medium-sized enterprises across multiple sectors of the European economy.

This paper is organised in three sections: the first examines the size and market opportunities for the direct lending with a particular focus on sector deals. The second section explores the prospects direct lending can provide for the European transformation, highlighting the leadership of the Nordic region when it comes to the renewable energy and digital transformation.

The final section assesses the characteristics of the sustainability loan market which offers the possibility that direct lending strategies can deliver real world sustainability outcomes such as greenhouse gas emission reduction. We also highlight the challenges with tracking and verifying company performance against specific key performance indicators that need to be addressed to support the long-term growth prospects for this market.

¹ Preqin, Future of Alternatives 2028 Report

² LCD News Today, Europe, January 17, 2024

³ Bloomberg Finance LP (December 2023)

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.

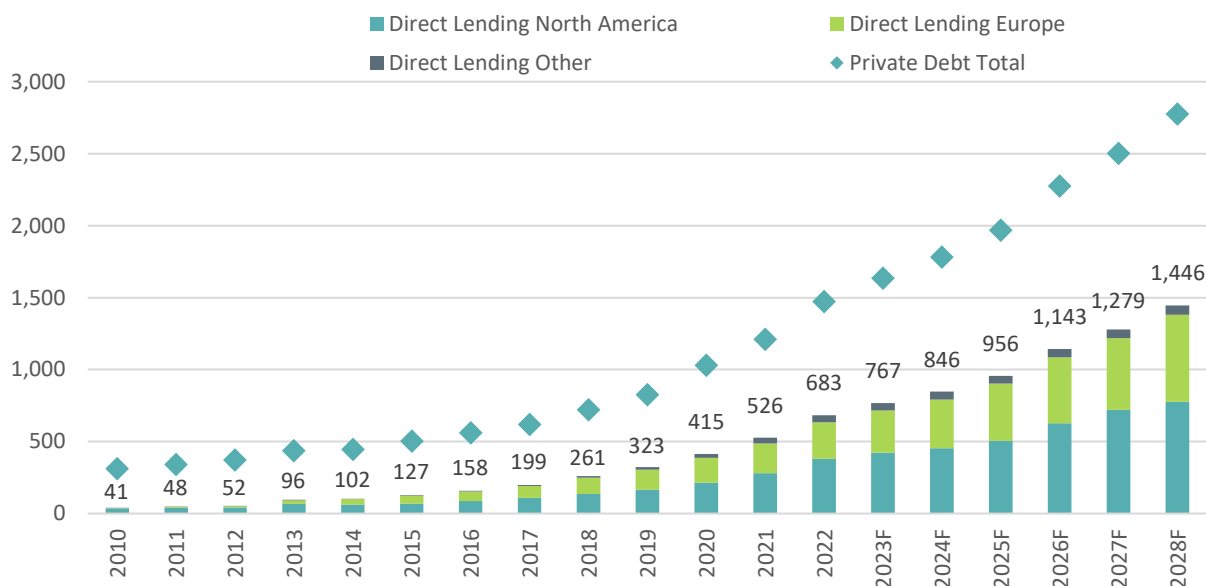
Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those 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.

For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). For Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). Outside the U.S. for Institutional investors only. In the United States and Canada, for institutional client and registered representative use only. Not for retail distribution. Further distribution of this material is strictly prohibited. In Australia and New Zealand: For Wholesale Investors only. For Asia For institutional investors only. *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.

1 / Market size and outlook

According to industry estimates⁴, the size of the private debt market globally is expected to grow to an all-time high of US\$2.8 trillion by 2028. In terms of composition, direct lending constitutes approximately half of the global private debt market with the remainder of the market made up with instruments such as distressed and mezzanine debt, [Figure 1](#).

Figure 1: The size of the private debt and direct lending markets



Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect
 Source: DWS International GmbH 2023, as of November 2023

Market activity

Direct lending demand is driven primarily by private equity. In the past few months, the private equity landscape has been confronted with several challenges. Geopolitical instability, political uncertainty, and a gloomy economic outlook have all affected valuations of companies and their ripple effects are still being felt⁵. Exits take longer as a greater valuation discrepancy persists, and market sentiment remains muted. While it is true that private equity is experiencing a trying period, funds are still able to allocate and have found creative ways to generate liquidity and performance in periods of market stress⁶.

Although returns for private credit can currently yield more than private equity according to some sources, the mutual dependency warrants a more differentiated perspective on the state of private markets rather than a simple snapshot⁷. The uptick in activity in the fourth quarter of last year can serve as a positive sign of more deals to come, which should translate into more deals on the private credit side. Calls that private equity is not as relevant as before and that private credit is going to play a larger role seem premature and, given their relationship, misplaced. The recognition of private credit as an attractive asset class does not have to precipitate a reevaluation of private equity’s value. The asset classes are intertwined and rely on one another to differing degrees and should be examined accordingly. Private credit certainly does not have to shy away from any comparisons with other credit instruments given its attractive return and enduring value amid turbulent markets.

⁴ Preqin, Future of Alternatives 2028 Report

⁵LCD, *European bond issuance slumps to post-GFC October low amid rate volatility*, November 2023

⁶ EY, *Private Equity Pulse: key takeaways from Q4 2023*, January 2024

⁷ BNN Bloomberg, *Private Credit Is Giving Investors Better Returns Than Private Equity*, December 2023

For Institutional investors and Professional investors

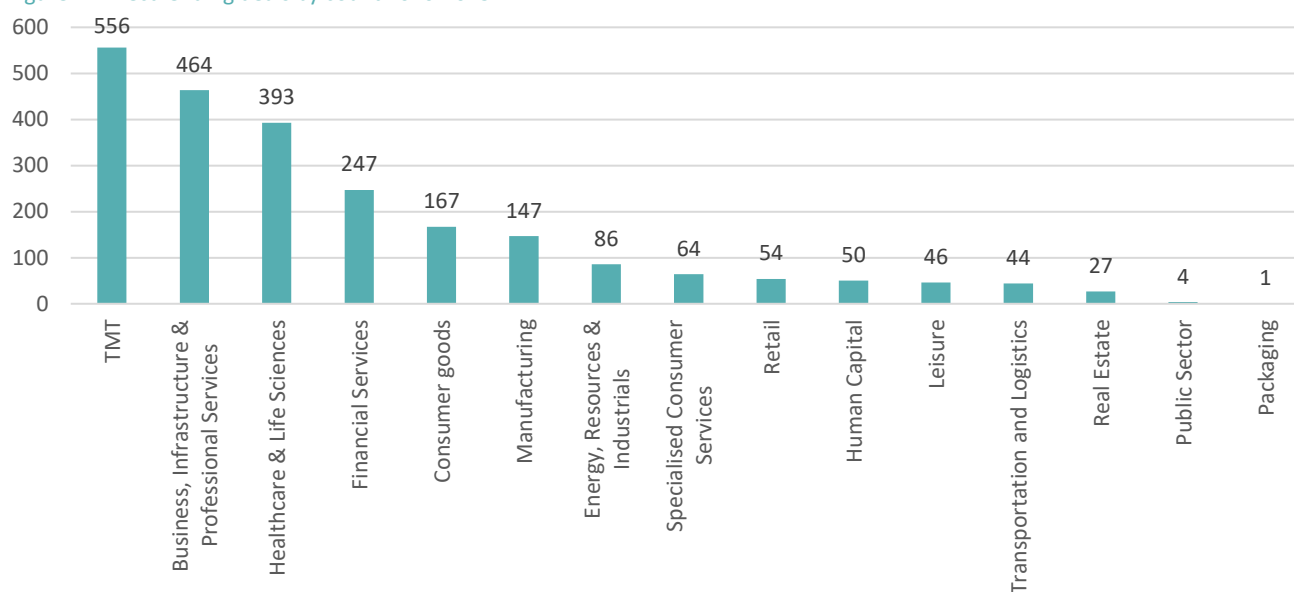
Nov 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

Sectors bias towards non-cyclicals

The trend that non-cyclical sectors are still in vogue has intensified in the European direct lending landscape. Hence, securing funds for other sectors has become even more challenging, for example, sectors that are consumer facing⁸. Chemicals have also been affected by a more cautious approach of lenders who are prioritizing stable businesses⁹. However, looking ahead, DWS analysis indicates that although non-cyclical sectors are still dominating the deal pipeline, change is afoot and more deals are being set up or struck in the consumer sector.

Sector agnostic perspective on the market may play out in General Partners favor to ensure that the best relative value is the driving force behind sourcing and structuring deals, instead of blindly following the trend of defensive features. However, geographical differences apply, high margins and the selective approach are making direct lenders look expensive. Meanwhile, banks are staging a comeback, especially in the lower mid-market, trying to claw back some of the market share they have lost in recent years¹⁰. As a result, sector diversification and fending off competition from banks can be strong arguments for re-assessing the credit worthiness of sectors and their associated risks. Nimble private debt lenders may salvage this momentum to lend to strong businesses in ‘weaker’ sectors. The speed and flexibility of private debt gives lenders more options to explore more cyclical sectors, because pre-cautionary measures can be taken, and tailor-made agreements can be fashioned at ease.

Figure 2: Direct lending deals by count 2020-2023



Source: Deloitte, as of December 2023

Caution in an uncertain macroeconomic backdrop is understandable and prudent. However, it should not lead to presumptive assumptions about business models operating in ‘riskier’ sectors, as each deal depends on the individual nature of the business and the deal structure. Factors such as market position, business model within the value chain, quality of management and strength of cash-flow profile should be considered first. Other key aspects for the risk assessment are sponsor commitment, leverage levels and the strength of covenants.

⁸ LCD (November 2023). Higher interest costs to keep default rates elevated, rating agencies agree

⁹ LCD (November 2023). Higher interest costs to keep default rates elevated, rating agencies agree

¹⁰ LCD (December 2023). European direct lenders target popular sectors, opening door for banks

For Institutional investors and Professional investors

Nov 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

Market characteristics

When analyzing the direct lending market and its characteristics, the important role of covenants is often highlighted. In light of an unpredictable market environment, this narrative continues to hold true. One noticeable change is the installment of a greater variety of covenants when structuring deals. Instead of relying only on a leverage covenant one can also see more deals in the market that include debt servicing covenants¹¹.

Moody's has advocated for moving away from leverage or debt levels as the main indicator of companies' performance. In a recent paper¹², Moody's made the case for using interest rate cover more for gauging whether a company is in choppy waters or not. The paper argued that leverage alone is very one-dimensional to assess the credit quality of a company. The market is viewing interest cover ratios (ICR) skeptically as well and is keen to see lower ratios in a higher interest rate environment¹³. On the other hand, covenants are being removed and a laxer approach is being espoused when it comes to structuring larger deals¹⁴.

As direct lending is evolving into an asset class that is active beyond the realms of the classical mid-market towards bidding for large-cap deals, it is shedding some of the principles that have allowed it to thrive in the past. Maintenance covenants fall prey to more competition with liquid markets, where such protections have been treated more as an after-thought in recent years¹⁵. Hence, it does not come as a surprise that in an industry survey undertaken by LCD 'flexibility on terms' ranked third when listing arguments favoring private credit.

While default rates have risen only modestly so far, a prolonged period of elevated default rates is expected. This assumption has been long standing and, so far, the sparse data that are available on defaults in the private markets suggests that this prediction is surviving the test of time¹⁶. This is why lenders are bracing themselves for a rude awakening and have been actively recruiting restructuring and work-out staff¹⁷. After the testing time of Covid, the market is set for another period of instability with the looming danger of credit losses ever present. While recession fears in Europe last year were vastly overstated, the current expectations of muted economic growth are unlikely to change soon. This means that a patient and meticulous approach to new opportunities is the most probable course of action for direct lenders, especially for lenders in the senior secured section of the market, where capital preservation is key.

Pricing power is shifting

Despite possible defaults or credit losses on the horizon, the pricing power has shifted in in the second half of 2023 . This reflects increased competition from liquid markets and an ever-increasing field of players in the private debt space, leading to tightening spreads. Our research indicates that the margins in direct lending are going to follow the repricings seen in the liquid market, implying further tightening ahead¹⁸. The driving force behind a more aggressive pricing strategy is the demand for deals that is anticipated to far exceed the supply. Despite increasing price pressure, the illiquidity premium is set to stay, and instead excessive earning potential is being eroded. The relative value of direct lending compared to its liquid alternatives remains superior. Within the direct lending world large cap deals which are in nature closest to liquid ones, feel the heat quicker and adjust accordingly. The rates in the lower mid-market are more stable and slower to adjust. In 2023, extensions accounted for the vast majority of the European loan volume. Today, our expectation is optimistic for 2024 featuring more new deals and higher volumes¹⁹.

¹¹ LCD (October 2023). European private credit market navigates sparse M&A landscape

¹² Moody's (September 2023). Look beyond leverage: Rising rates put interest cover in focus for credit quality

¹³ LCD (November 2023). Quick Take: Higher rates shutter Europe's junior cash-pay market

¹⁴ Moody's (October 2023). Private credit, syndicated loan protections will converge as competition grows

¹⁵ Moody's (October 2023). Private credit, syndicated loan protections will converge as competition grows

¹⁶ Moody's (October 2023). Private credit, syndicated loan protections will converge as competition grows; Moody's (December 2023). November 2023 Default Report

¹⁷ Bloomberg, *Private Lenders Hire Restructuring Pros as Defaults Loom*, December 2023

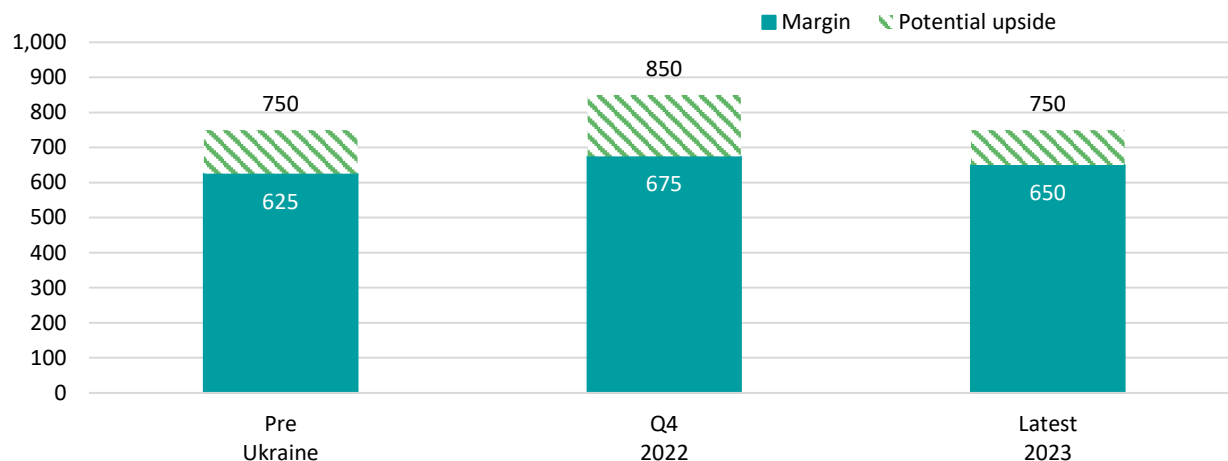
¹⁸ LCD, *LCD News Today, Europe: January 17, 2024*, January

¹⁹ LCD, *Extensions dominate European loans as M&A activity sags, but returns soar*, December 2023

For Institutional investors and Professional investors

Nov 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

Figure 2: European direct lending middle-market pricing (basis points)



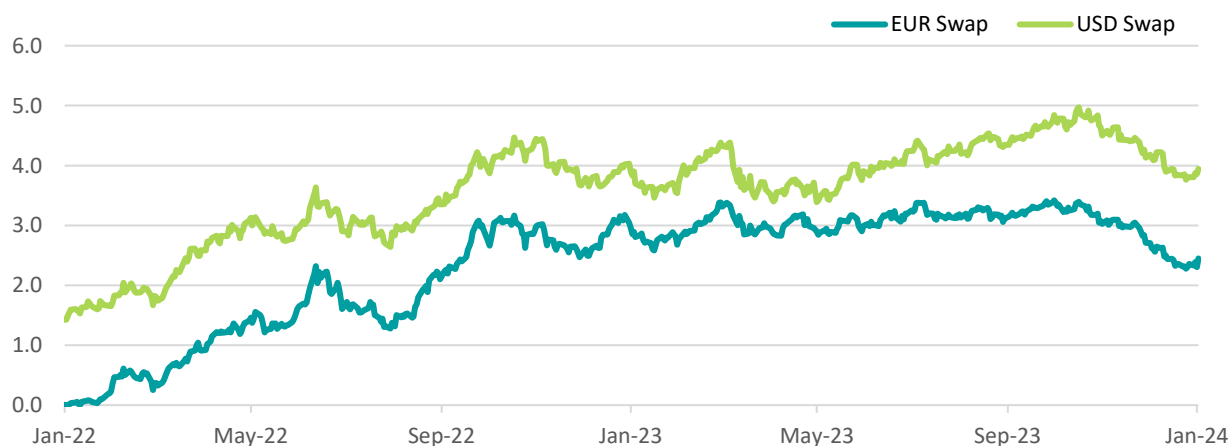
Source: Pitchbook, as of December 2023. Private credit lenders yield some ground as competition increases.

Market volumes increasing

In the coming year, we expect market volumes to increase with private credit likely to be at the center of these deals. However, banks are pushing back into the market and liquid high yield bonds and leverage loans markets are expected to experience an uptick in issuances. Thus, the competition over deals looks set to increase and this will likely narrow direct lending margins as a result. Covenants are at crossroads as their value is being recognized in the lower mid-market, while simultaneously they are being questioned or removed in the upper echelons of the mid-market. However, their value especially in periods of economic and financial stress cannot be overestimated.

Despite increasing competition, which also starts to permeate the lower mid-market, private credit is set to remain attractive, particularly given the prospect of interest rate cuts as illustrated by the EUR and USD 5-year swap curve, Figure 3. Therefore, the floating nature of the loans and still attractive margins in the direct lending demonstrate its all-weather qualities as an asset class. and looser terms becoming more commonplace. However, given the liquidity of these smaller firms and the needed ICR to service the debt, no change of covenant policy is expected soon.

Figure 3: EUR and USD swap curves (%)



Source: Bloomberg finance LP, as of January 2024

For Institutional investors and Professional investors

Nov 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

2 / Opportunities for European transformation

In previous DWS research²⁰, we highlighted that direct lending is an important financing solution for transforming European economy in the decade ahead. Small and medium-sized enterprises (SMEs) which are the backbone of Europe’s economy have no direct access to capital markets or other sources beyond credit. Direct lending can support technological change and improve the competitiveness of SMEs of all sizes and across all sectors and geographies.

Our definition of European transformation encompasses a large number of themes across various sectors and economic activities, in which SMEs play a crucial role, [Figure 4](#). These themes are often interconnected and can influence and reinforce each other. A great example of this is the sustainability and digitisation. The European Commission continues to highlight the importance of twinning the green and digital transition,²¹ and we could look at the Nordic countries as leading the way in these areas, [Figure 5](#).

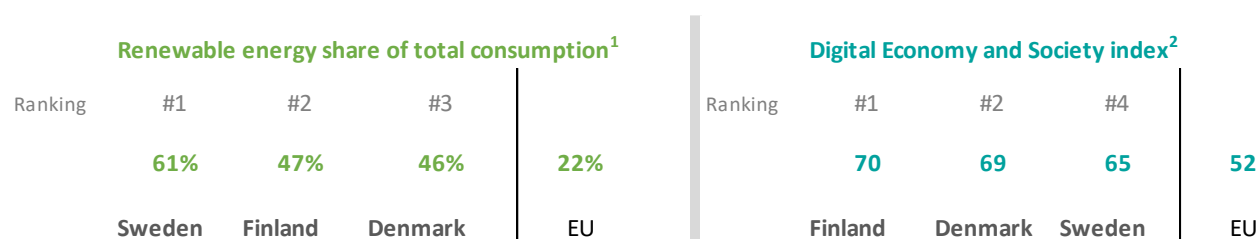
Figure 4: European Transformation themes



Source: DWS International GmbH, as of January 2024

Sweden, Finland, and Denmark have significantly higher penetration of renewable energy compared to the EU overall.²² At the same time, they also rank very highly on the digital economy and society index.²³ Norway, Finland and Sweden have emerged as Europe’s software powerhouses, Estonia has top-valued tech start-ups, while Denmark has become global biotechnology leader. The rest of the European countries could learn from Nordic’s success stories and lay foundations for their own transformation. This also has a potential to reshape Europe’s economic geography in future.

Figure 5: Nordics: How the looming energy & digital transformations can be turbocharged to reinforce each other



Source: DWS International GmbH 2023, as of December 2023. ¹2021, European Environment Agency. ²Index summarizes indicators on digital performance and tracks the progress of EU countries. European Commission.

European direct lending has had a record of sectoral focus, with most deals taking place in healthcare, technology and business services. Furthermore, lenders have been adopting an even more restrictive approach in the current market environment. Expanding the deployment of direct lending finance to a broader range of industries and themes will help European SMEs with strong business concepts to further grow and/or improve their profitability, while making the European economy more competitive overall. In contrast to the needed expansion of sectors benefiting from direct lending, geographical diversification has been growing. Regions such as Benelux and the Nordics are catching up with the traditional direct lending core markets of the UK, France, and Germany, opening opportunities for SMEs across many countries to benefit from private debt financing.

²⁰ DWS, Direct lending & the European transformation, 2023. <https://www.dws.com/en-us/insights/dws-research-institute/direct-lending-and-the-european-transformation/>

²¹ European Commission (2022). Strategic Foresight Report 2022

²² European Environment Agency, 2021.

²³ Index summarizes indicators on digital performance and tracks the progress of EU countries. European Commission.

For Institutional investors and Professional investors

Nov 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

3 / Direct lending and sustainability

ESG and sustainability-related information are also becoming a more important part of the due diligence process for private debt and specifically direct lending investments. However, investors are often faced with a significant information gap when it comes to ESG data for private companies. Despite this hurdle, the incorporation of ESG into the private debt market is gathering momentum.

In certain instances, ESG metrics are becoming embedded into the life cycle of the loan. From a lending perspective, this has initially taken the form of ESG negative screens, prohibiting lending to certain sectors or activities. More recently, this is being extended into defining certain sustainability thresholds or targets that the company should achieve.

More and more SMEs are being made aware of investor interest when it comes to ESG metrics. In addition, European legislation such as the Corporate Sustainability Due Diligence Directive which plans to set obligations for large companies in the areas of human rights and the environment including when it comes to their supply chains. This has meant these responsibilities are also cascading down to SMEs. Ultimately, embedding sustainability into the operations of SMEs may therefore become increasingly necessary from a competitive perspective. To address these developments, efforts have been underway to raise awareness and improve the collection, disclosure, reporting, measurement, and verification of company relevant ESG data.

ESG data collection and reporting frameworks

The collection of ESG data by lenders often involves proprietary questionnaires and negative screening lists. These can be complemented by third-party data providers as well as industry frameworks. To help streamline the process for borrowers, who are often requested to complete multiple questionnaires, certain industry reporting frameworks are being developed. These include the ESG Integrated Disclosure Project²⁴, the European Leverage Finance Association's ESG Fact Sheets²⁵ and the ESG Data Convergence Initiative²⁶.

These typically are organized according to general and then industry specific questions and in certain instances capture the Principal Adverse Impact (PAI) indicators which form part of the EU's Sustainable Finance Reporting Directive regulatory reporting requirements. The most common ESG datasets often relate to carbon footprint, labor practices and governance structure which cover metrics such as greenhouse gas (GHG) emissions, workplace safety and board diversity.

Targeting substantiality outcomes

According to forthcoming European Commission research²⁷ conducted with over 4,000 SME respondents, it reveals that over the last two years, 9–10% of SMEs have obtained a green or sustainability-linked loan from a bank. In what is a relatively nascent market, direct lending via Sustainability Linked Loans (SLLs) can incentivize companies to promote sustainability in a borrowers' business operations. This can be achieved by linking the borrowing costs of the loan to either an ESG rating target for the borrower or identifying ESG-related key performance indicators (KPIs) with pre-defined Sustainability Performance Targets (SPTs). These two approaches can have their advantages since a third-party ESG rating may recognize that the borrower may not have the internal resources available to report and monitor on specific ESG-related KPIs. Alternatively, where specific KPIs are selected these can be tailored to the individual borrower and its operational objectives.

To assist investors and borrowers when it comes to identifying KPIs and setting SPTs, the Sustainability Linked Loans Principles²⁸ were developed in 2019. As part of its guidance, the Principles state that to be credible, KPIs must be material and core to the business of the borrower. In addition, the SPTs must be ambitious and go beyond a business-as-usual approach and finally there must be sufficient monitoring, measuring and verification of borrower performance against the SPTs.

There is no common approach to the number of relevant ESG KPI selected which can range to as many as four or five but often amount to no more than two. Examples of relevant KPIs by industry can range from a plastic reduction target for a packaging company or achieving a specific renewable energy target for a utility company. One of the most popular KPIs has been setting a GHG emission reduction target. If the target is reached, then a discount can be applied to the loan. Alternatively, where the company falls short of its target a penalty may be imposed. If successful, this approach provides a unique way of lenders incentivizing borrowers to incorporate sustainability targets into their operations, an option that is not so readily available in other asset classes.

²⁴ <https://www.esgidp.org/>

²⁵ <https://elfainvestors.com/publication/esg-fact-sheets/>

²⁶ <https://www.esgdc.org/>

²⁷ https://finance.ec.europa.eu/system/files/2024-01/240129-sf-platform-report-market-practices-compendium-report_en.pdf

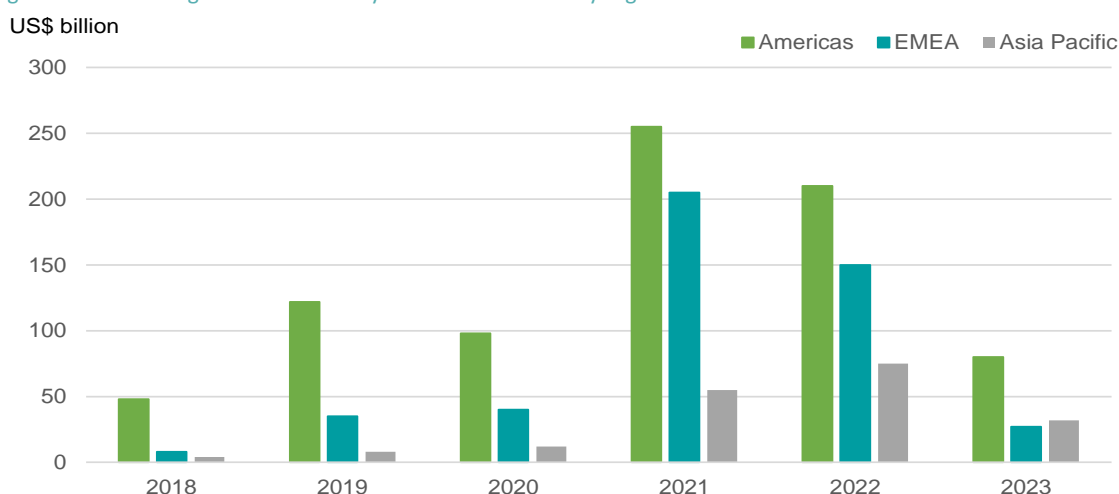
²⁸ <https://www.lsta.org/content/sustainability-linked-loan-principles-sllp/>

Addressing shortcomings

Issuance in SLLs witnessed significant growth reaching just over US\$500 billion by 2021. This was led by the Americas followed by EMEA, which combined represented approximately 90% of the global SLL market. However, since this peak, issuance has cooled significantly, Figure 7. Part of this lower volume may be explained by the prevalence of amend and extend (A&E) loans which typically recycle the terms of the existing debt. Another factor may be greenwashing concerns relating to the quality of ESG data and the monitoring and verification of meeting sustainability performance targets.

Efforts to address these shortcomings are already underway. For example, the introduction of standardized industry templates may help to simplify ESG data collection as well as reduce the wide dispersion of data quality which exists by sector. This was revealed in a survey conducted by the PRI last year²⁹, which revealed that the quality of ESG datasets in the energy sectors outperform other sectors by a significant margin.

Figure 6: Size of the global sustainability-linked loan market by region



Source: Bloomberg Finance LP (annual data, 2023 data up to November 2023)

²⁹ PRI (September 2023). ESG incorporation in direct lending <https://www.unpri.org/private-debt/esg-incorporation-in-direct-lending-a-guide-for-private-debt-investors/11772.article>

For Institutional investors and Professional investors

Nov 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

Important information – EMEA, APAC & LATAM

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.

For institutional / professional 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.

© 2023 DWS Investment GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated in the UK by the Financial Conduct Authority.

© 2023 DWS Investments UK Limited

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

© 2023 DWS Investments Hong Kong Limited

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

© 2023 DWS Investments Singapore Limited

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

© 2023 DWS Investments Australia Limited

as of 01/29/24; 099531_1 (01/2024)