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INDEPTH

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THE INVESTMENT OPPORTUNITY IN SENIOR SECURED LOANS

- In the current low yield environment, institutional investors looking for attractive risk-adjusted returns and diversification opportunities in the non-investment grade credit universe could consider senior secured loans.
- Senior secured loans can provide complementary exposure to existing high yield bond portfolios with a very limited sensitivity to a rise in interest rates.
- Although different in terms of size, liquidity and maturity, overall, the US and European senior secured loan markets represent a combined €1,117 bn investment universe[1] and are complementary to each other.

Senior secured loans—known also as bank loans or leveraged loans—are, along with bonds, the primary credit instruments that companies use for financing. Like bonds, loans offer investors direct exposure to corporate credit. Companies that typically issue loans are mid-to-large sized firms with above average gearing levels (they are therefore non-investment grade) that span a wide range of sectors. As with bonds, the primary risk when looking at loans lies in the creditworthiness of the borrower, i.e. the issuer's ability to repay debt through cash-flow generation and/or refinancing.

Since 1998 US senior secured loans have returned an average of 5.54% p.a. to investors and European senior secured loans have returned an average of 5.33% p.a.[2]. Figure 1 shows that senior secured loans have delivered positive returns to investors each year over nearly two decades, with few exceptions.

We believe senior secured loans may offer investors attractive risk-adjusted returns in an environment of prolonged low yields as well as in an environment of increasing interest rates and positive economic growth.

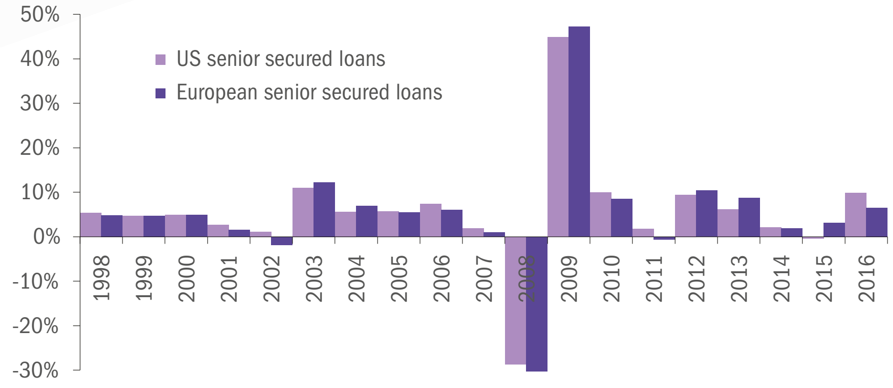
Differences between senior secured loans and high yield bonds

Senior secured loans and high yield bonds differ in various regards. Senior secured loans are secured by the assets of the borrower, including but not limited to: share pledges, patents, real estate, equipment or intellectual property. They are senior in a company's capital structure, meaning that loan holders are first in line for repayment in the case of a company's sale or bankruptcy (Figure 2). The combination of the seniority and security leads to historical average recovery rates of 80.1% for senior secured loans vs. 41.1% for senior unsecured bonds[3].

Senior secured loans are usually callable, as opposed to high yield bonds, meaning the borrower can decide to prepay the principal at par before the original maturity date. This prepayment can shorten the effective duration of loan portfolios.

[1] Source: Credit Suisse as at 31 March 2017. [2] Source: Credit Suisse as at 31 March 2017. [3] Source: S&P Capital IQ's LossStats® database and Leveraged Commentary Data over the period 1998-2015 based on combined US and European markets as at 31December 2016

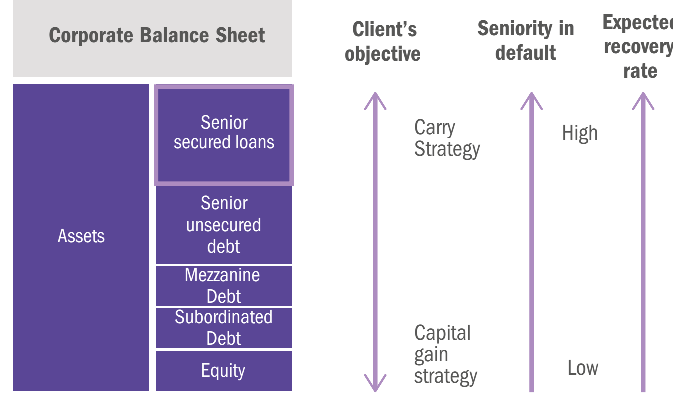
Figure 1: Annual returns for senior secured loans – US and European markets (1998 to 2016)



Source: Credit Suisse Western European Leveraged Loans Index (in €) and US Leveraged Loans Index (in $), AXA Investment Managers as at 31 March 2017. For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

"Senior secured loans are significantly less inclined to price declines in a context of rising interest rates while benefiting from increased coupons."

Figure 2: Senior secured loans benefit from highest priority of payment in a firm's capital structure



Source: AXA Investment Managers. For illustrative purposes only.

Unlike bonds that pay a fixed rate coupon, loans pay a floating rate. As a result, senior secured loans benefit from a very limited sensitivity to interest rate and are therefore significantly less inclined to price declines in a context of rising interest rates while benefiting from increased coupons. Figure 3 recaps the key characteristics of senior secured loans and bonds.

Senior secured loans, should be noted for their high running income and relatively stable returns. As Figure 4 shows, loans have exhibited a better risk-return trade-off compared to high yield bonds.

For institutional investors, loans and high yield bonds give access to complementary issuers when looking for exposure to corporate debt. The overlap between issuers is limited: only 3% of European companies and 11% of US companies issue both loans and high yield bonds[4].

[4] Based on a comparison in number of issuers in the Credit Suisse high yield and leveraged loans indices as at 31 March 2017.

Figure 3: Key characteristics of senior secured loans and high yield bonds

Loans	Credit risk based on the ability of the borrower to **generate cash-flows** and refinance	**Secured** [1] (expected recovery c. 80%)	**Floating rate**	Duration around **3 to 6 months**	Average life around **3 to 5 years**	**Protective Covenants** [2]
Bonds		**Usually unsecured** [1] (expected recovery c. 41%)	**Fixed rate**	Duration around **4 to 5 years**	Average life around **7 to 10 years**	Usually **No Covenant**

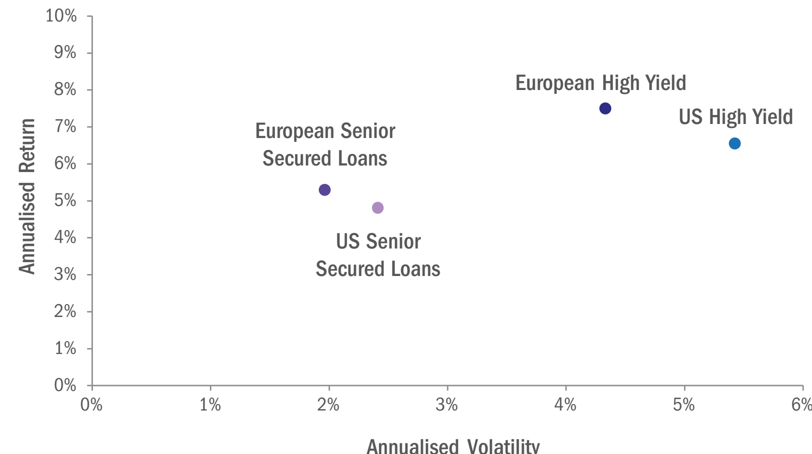
Source: AXA Investment Managers as at 31 March 2017. 1. Source: S&P Capital IQ's LossStats® database and Leveraged Commentary Data 1998-2015 as at 31 December 2016. 2. Protective covenants on leverage, cash-flow cover, additional debt, dividends, etc.

US and European senior secured loan markets

The total outstanding notional volume of European senior secured loans is €174 bn, with circa 372 loans— while the US senior secured outstanding loan volume is $1,005 bn (€943 bn), with more than 1,497 loans (Figure 5). These characteristics are of a similar magnitude with the high yield bond markets[5].

The size of the secondary markets, and thus liquidity, differs considerably, with the European secondary market for senior secured loans trading in 2016 approximately €56 billion versus $596 bn (€560 bn) in the US[6]. Figure 6 shows the smaller and less liquid European senior secured loan market generally trading at higher spreads than the larger and more liquid US senior secured loan market.

Figure 4: Five-year risk-return profile for senior secured loans and high yield bonds – US and European markets (Q1 2012 to Q1 2017)



Source: Credit Suisse Western European Leveraged Loans Index (in €) and US Leveraged Loans Index (in $) & Western European High Yield Index (in €) and US High Yield Index (in $) as at 31 March 2017. For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Banks disintermediation

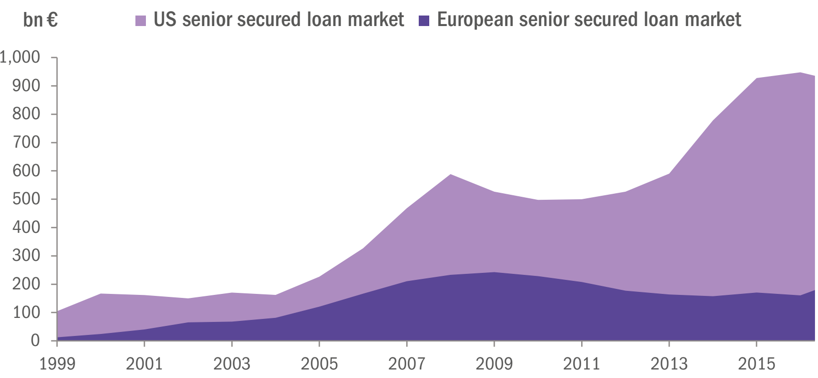
Whilst companies across the globe use both loans and bonds to finance their activities, methods of corporate financing differ greatly between Europe and the US. In the US, companies obtain most of their funding from bonds and loans placed in the capital markets. This is in contrast with Europe, where banks still finance the bulk of corporate lending activity. Historical differences in banking models account for part of this difference.

In the US, the ring fencing of commercial and investment banking activities led investment banks with limited capital and liquidity capacity to actively develop the senior secured loans market. They used an originate-to-sell model that encouraged borrowers to publish their financial statements and credit ratings to attract outside investors. Today US investment banks set up loans with investors and companies, keep only a small portion – if any– on their books and sell the remainder to third party investors.

In Europe, a universal banking model and fewer balance sheet capacity constraints permitted banks to originate-and-hold rather than originate-and-sell loans. As a result, the European senior secured loan market only started at the end of the 1990's and still trails the US in terms of size, liquidity, standardisation and transparency.

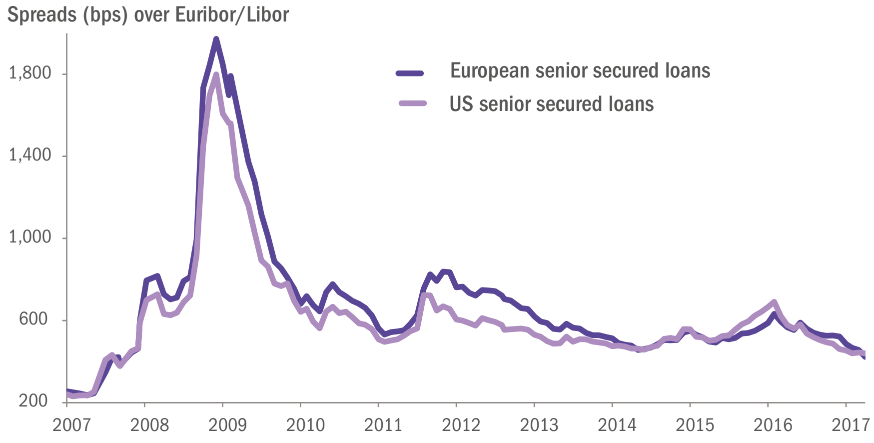
[5] The high yield bond market represents $ 383 bn (€ 360 bn) with 622 issues in Europe and € 1 237 bn ($1 318 bn) with 1 927 issues in the US. Source: Bank of America Merrill Lynch High Yield Index (HOAO, HPOO) as at 31 March 2017. [6] Source: S&P Capital IQ Leveraged Commentary Data, as at 31 December 2016

Figure 5: Growth of the senior secured loan markets – US and European (1999 to 2017)



Source: Credit Suisse Western European Leveraged Loans Index and US Leveraged Loans Index as at 31 March 2017.

Figure 6: Spreads for senior secured loans – US and European markets (2007 to 2017)



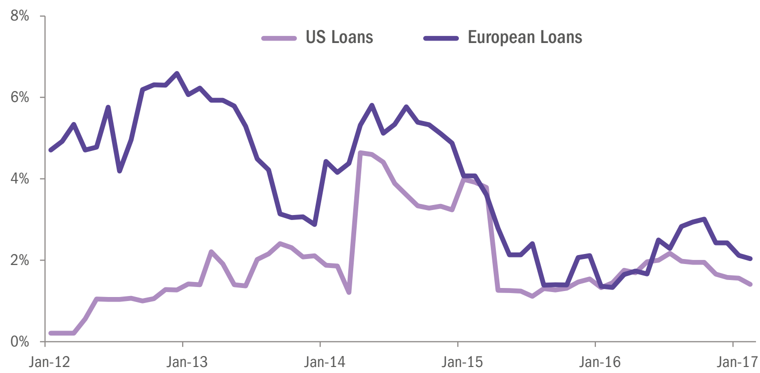
Spreads (three year discount margin) of European and US senior secured loans. Source: Credit Suisse Western European Leveraged Loans Index and US Leveraged Loans Index as at 31 March 2017. For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Default and work out

Default rates on senior secured loans have averaged 3.81% in Europe versus 2.01% in the US over the last five years as at 31 March 2017[7] although with similar recovery rates. Figure 7 details the potential divergence in default rates between the two geographies.

[7] Source: S&P European Leveraged Loan Index (ELLI) and S&P/LSTA Leveraged Loan Index (LLI) calculated using the lagging 12-Month default rate computed on a monthly basis. For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Figure 7: Senior secured loans lagging 12-month default rate – US and European markets (2012 to 2017)



Source: S&P European Leveraged Loan Index (ELLI) and S&P/LSTA Leveraged Loan Index (LLI) as at 31 March 2017. Based upon principal amount. For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Blending US and European senior secured loan exposures

The relative value of the US versus the European loan market could be better assessed via the calculation of excess spread net of losses after recovery.

For illustration, assuming a default rate similar to the level observed in 2016 (1.6% in the US and 2.4% in Europe) and recovery rates at roughly 80%, a spread of 3.7% for European loans and 3.8% for US loans would translate to a 0.3% excess spread net of losses after recovery of US loans vs European loans[8].

This relative attractiveness of the US market versus the European market (net of losses after recovery) might be balanced by the historically lower volatility of the latter. For example (as shown in Figure 4) over the last five years as at 31 March 2017, the European loan market displayed a volatility of 2.0% vs 2.5% for the US loan market.

We believe that a portfolio blending a US and a European exposure could offer an interesting profile for a loan investor given the specific characteristics of each market, the diversification opportunities offered by the two markets and the potentially divergent macro-economic context between the two regions.

> "We believe that a portfolio blending a US and an European exposure could offer an interesting profile for a loan investor."

The role of senior secured loans in a diversified portfolio

Loans offer investors potential diversification benefits since they have historically evidenced low correlation with other asset classes. Figure 8 shows the correlation between senior secured loans and other major asset classes in a US context as an illustration.

[8] Source: AXA Investment Managers as at 31 March 2017, S&P European Leveraged Loan Index (ELLI) and S&P/LSTA Leveraged Loan Index (LLI). For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Figure 8: Correlation between US senior secured loans and other asset classes (1997 to 2017)

	US Govt 5-7 Years	US Corp Aaa	High yield	US inflation	US equities	Real estate
US loans	-36%	-10%	78%	-13%	45%	50%

Source: US senior secured loans is represented by the Credit Suisse Leveraged Loan index. US Government 5-7 years is represented by Bank of America Merrill Lynch 5-7 year US Treasury Index. US corporate Aaa is represented by the Bank of America Merrill Lynch AAA US Corporate Index. High yield is represented by the Bank of America Global High Yield index. US inflation is represented by the Bank of America Merrill Lynch US inflation-Linked Treasury index. US equities is represented by the S&P 500. Real estate is represented by the FTSE NAREIT All REITs. Based on historical data from 31 December 1997 to 30 April 2017. For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Resurgence of covenant-lite loans

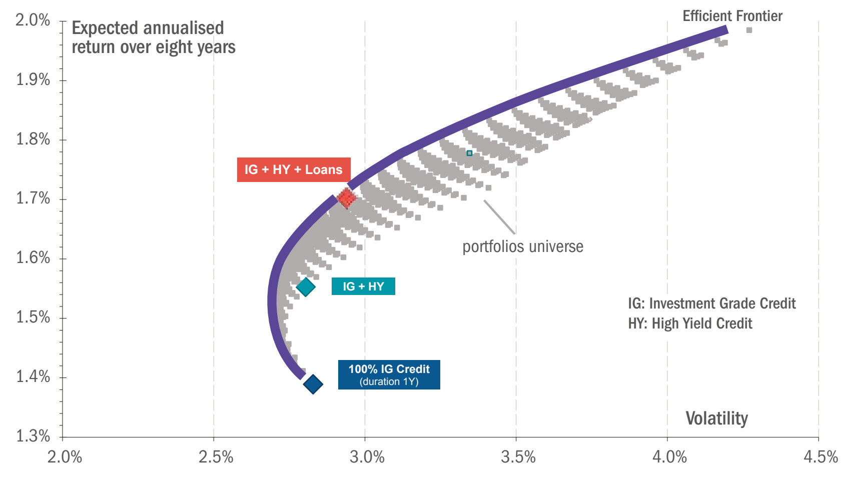
Senior secured loans have traditionally benefited from both maintenance covenants which enable a creditor to take enforcement actions against the borrower in case of breach in financial positions such as interest coverage and leverage ratios and incurrence based covenants that offer significant creditor protection by virtue of affirmative and negative obligations in case of corporate actions such as paying dividend, making an acquisition or incurring additional debt.

The past few years have seen an increase in the number of covenant-lite loans that lack maintenance covenants but still contain incurrence based covenants, representing in 2016 60% of total loan issuance in Europe compared to 75% in the US[9].

Historically the lack of maintenance covenants has had a minimal impact on the creditworthiness of an issuer. Default and recovery rates of covenant-lite loans have been consistent with those of loans with maintenance covenants[10].

In addition, senior secured loans may improve an existing institutional portfolio's efficient frontier. Figure 9 and 10 illustrate that an allocation to both US and European Loans can improve the long-term risk/return profile of a credit bond portfolio.

Figure 9: Including loans in a fixed income portfolio could improve the efficient frontier – simulation over an 8-year investment horizon



Source: AXA Investment Managers - Based on prospective analysis over an eight-year horizon on a forward-looking basis begins from 31 March 2017. The methodology followed consists in replicating prospective asset classes' behaviour with financial stochastic models considering correlations between assets and systemic/specific market crises, by generating 10,000 markets scenarios on AXA Investment Managers' internal simulation tool. The reference interest rate curve is the EUR swap curve as of 31 March 2017. This technique of the simulation enables us to determine prospective risk and return indicators. This is provided for illustration purposes only and is not guaranteed

[9] Source: S&P Capital IQ Leveraged Commentary Data, as at 31 December 2016.
[10] Source: S&P Capital IQ Leveraged Commentary Data, as at 31 December 2016.

Figure 10: Characteristics of selected fixed income portfolios – simulation over an 8-year investment horizon

	100% IG Credit (duration 1Y)	IG + HY bonds	IG + IY + Loans
Credit IG EUR	100%	87.5%	80%
High Yield	0%	12.5%	7.5%
Loans US	0%	0%	7.5%
Loans EUR	0%	0%	5%
Long-Term Annualised Return	**1.39%**	**1.55%**	**1.70%**
Volatility	**2.8%**	**2.8%**	**2.9%**
Sharpe Ratio	**27.4%**	**33.5%**	**37.0%**
VaR 95% 1Y	-4.8%	-4.7%	-5.0%
Solvency Capital Requirement (SCR)	8.3%	9.8%	11.5%

Source: AXA Investment Managers - Based on prospective analysis over an eight-year horizon on a forward-looking basis begins from 31 March 2017. The methodology followed consists in replicating prospective asset classes' behaviour with financial stochastic models considering correlations between assets and systemic/specific market crises, by generating 10,000 markets scenarios on AXA Investment Managers' internal simulation tool. The reference interest rate curve is the EUR swap curve as of 31 March 2017. This technique of the simulation enables us to determine prospective risk and return indicators. This is provided for illustration purposes only and is not guaranteed.

Considerations when investing in senior secured loans

Credit risk
Investing in senior secured loans below investment grade can be subject to specific events that may include downgrade, maturity extension and default. Senior secured loans as high yield bonds are characterised by a higher probability of default than investment grade issues.

However owing to their higher ranking in the issuers' capital structure, senior secured loans have historically demonstrated a strong recovery rate (circa 80%[11]) which can help reduce capital losses in case of default. In addition both the US and European regulators have raised concerns on transactions underwritten with a total debt exceeding six times the EBITDA of the issuer, constraining the leverage of the capital structure in new issuances offered in the market (eg: 5.5 times in the US and 5.2 times in Europe in 2016)[12].

Loans may also be subject to an extension of maturity which may temporarily adversely affect the market value of the loan. The impact of a possible extension is usually compensated by an increase in spread.

Prepayment risk
Loans carry a free option to prepay which shortens the effective duration of loan portfolios. If market spreads decline or credit quality improves, an issuer will likely refinance their loan at a lower spread. Issuers often have to pay a 1% call penalty if the loan is prepaid less than six or twelve months after issuance. In 2016, the prepayment rate stood at 29.5% for US loans and at 31.2% for European loans[13].

"Senior secured loans have historically demonstrated a strong recovery rate (circa 80%[11]) which can help reduce capital losses in case of default."

[11] Source: S&P Capital IQ LossStats® database and Leveraged Commentary Data over the period 1998-2015.
[12] Source: Standard & Poor's (S&P) Capital IQ Leveraged Commentary and Data, as at 31 December 2016.
[13] Source: S&P Leveraged Commentary Data April 2017.

Liquidity risk

The liquidity offered on senior secured loans is less than the liquidity which can be found on equities and credit bonds. Senior secured loans include prepayment features and have an historical prepayment rate of circa 30% annually, which help increase the 'natural' liquidity of the asset class. In addition, bid/ask spreads in normal market conditions range typically from 30 to 60 bps for US loans and 50 to 80 bps for European loans, although bid-ask spreads could widen during market turbulence[14].

Market volatility and drawdown risks

Although largely immune from the impact of changes in interest rates, loan valuations can fluctuate, notably owing to changes in investors' appetite for credit risk and to imbalances between supply and demand. Figure 11 compares the drawdown observed in the US and European Loans and high yield markets during the last five years which includes the turbulent period of Q1 2015-Q1 2016:

Figure 11: Peak to trough valuation for senior secured loans and high yield bonds – US and European markets (Q12012 to Q1 2017)

US loans	US high yield	European loans	Europe high yield
-4.70%	-10.36%	-1.99%	-4.33%

Source: Credit Suisse Western European Leveraged Loans Index (in €) and US Leveraged Loans Index (in $) & Western European High Yield Index (in €) and US High Yield Index (in $). For illustrative purposes only. The figures provided relate to previous months or years and past performance is not a reliable indicator of current or future performance.

Other risks

Settlement delays and counterparty default risk are other factors to consider. Loans experience longer settlement times than bonds as they do not trade in regulated markets (bond trades are settled at T+3 whereas loan trades were settled on average in 2016 at T+13 in the US and at T+ 31 in Europe[15]. Counterparty risk also exists when selling a loan if a counterparty fails to deliver on the payment.

Conclusion

We believe senior secured loans may offer investors attractive risk-adjusted returns in an environment of prolonged low yields as well as in an environment of increasing interest rates and positive economic growth. In our view, further disintermediation between the bank lender and corporate borrower increases the potential for enlarged interest from institutional investors for this asset class.

The US and European loan markets represent a complementary addition to a sound portfolio. An optimal portfolio would include a mix of both US and European loans, thus combining the higher maturity and liquidity of the US market with the lower volatility of the European market and benefit from the diversification opportunities offered by the two markets.

[14] Source: S&P Capital IQ Leveraged Commentary Data. [15] Source: Median settlement times from the US Loan Syndication and Trading Association and European Loan Market Association as at 31 March 2017. For illustrative purposes only. The figures displayed are average over the whole market and the settlement time of individual loans can be significantly longer

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