

## Beyond the madding crowd

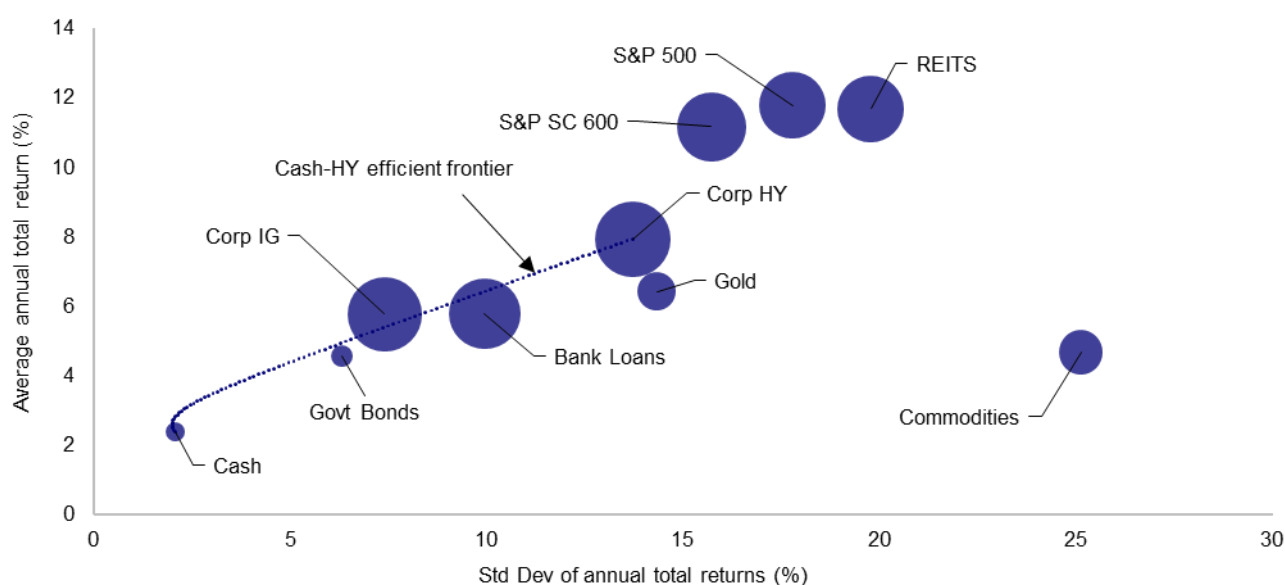
### Bank loans in a diversified portfolio

We are often asked for a view about bank loans, in particular how we would fit them into our asset allocation framework. This paper is an attempt to answer those questions and to help decide whether and how to integrate loans into our forecasting and Model Asset Allocation processes. As an asset class of similar size to high yield (HY), that sits somewhere between cash and HY in terms of risk versus reward and with projected returns of 7%-8% over the next 12 months in Europe and the US (our view), we conclude that bank loans merit addition to our Model Asset Allocation. We intend to have incorporated the asset class by end-2023.

#### Main conclusions:

- The market capitalisation of the bank loan asset class is now roughly equivalent to that of high yield credit in both the US and Europe.
- The bank loan asset class occupies a place in the risk-reward space somewhere between cash and HY. Its income flows come from variable interest rates (like cash) but are subject to defaults (like HY).
- Over time, it has generated higher returns than cash but with more volatility and has underperformed during recessions, with no systematic link between that relative return and central bank interest rate cycles.
- It has underperformed high yield over time but has tended to outperform during recessions, with no tendency to outperform when central banks tighten (though they underperform when central banks ease).
- US loans have generated negative total returns in only three years since 1992 (four since 1998 in Europe).
- History suggests current yield on bank loans is of limited use as a guide to future returns. Comparing current yield to cash rates improves predictive power but the best tool we tested was the discount margin.
- Current yields are high, compared to their histories, but current yield spreads and discount margins are closer to historical norms. This gives no reason to expect extreme returns over the next 12 months.
- We expect a global slowdown but not synchronised global recession and expect default (recovery) rates to normalise rather than rise (fall) sharply (the best environments are likely to be economic recovery/expansion).
- We forecast 12-month bank loan total returns in the US and Europe of 7.5% and 7.7%, respectively (as of 28 April 2023). This is higher than we expect on cash (and maybe HY). Even if default and recovery rates were to hit Global Financial Crisis levels, we estimate that total returns would still be in the 2%-3% range.

**Figure 1 – Risk versus reward for US assets (1992-2022)**



Notes: **Past performance is no guarantee of future results.** Based on calendar year returns from 1992 to 2022. Size of bubbles is in proportion to the average correlation with all other assets shown in the chart. "Cash-HY efficient frontier" describes the risk and reward outcomes for various combinations of cash and high yield (Corp HY). Returns are total returns in USD unless stated otherwise and are based on the following indices: Cash (ICE BofA 0-3m Treasury Total Return Index), Gold (London bullion market spot price in USD/troy ounce), Commodities (S&P GSCI), Govt Bonds (ICE BofA US Treasury Index), Corp IG (ICE BofA US Corporate Index), Corp HY (ICE BofA US High Yield Index), S&P 500 (S&P 500 Index), S&P SC 600 (S&P Small Cap 600 Index), REITS (GPR General US Index), Bank Loans (Credit Suisse Leveraged Loan Index).

Source: Credit Suisse, ICE BofA, GPR, S&P GSCI, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

Do loans have a role in our asset allocation framework?

### Introduction

We are often asked for a view about bank loans, in particular how we would fit them into our asset allocation framework. This paper is our attempt to answer those questions and to help us decide whether and how to integrate loans into our forecasting and Model Asset Allocation processes.

Bank loans are assets that were originally provided by banks to companies or other entities (they are often now arranged as part of a specific syndication process). Investors are able to gain access to the asset when banks (syndicates) sell the loans, thus passing on the claim to the future income stream and repayment value. Loans are often pooled into funds that aim to provide diversified exposure (see Glossary of terms).

Loans share features with high yield

The loans are secured on the assets of the borrower but are usually non-investment grade, which makes for a natural comparison with the high yield credit (HY) segment of the fixed income universe. This explains why they offer a high rate of interest.

But are also like cash

The big difference between high yield bonds and bank loans is that the latter usually offer a floating rate linked to a benchmark such as LIBOR (London Interbank Offered Rate) or SOFR (Secured Overnight Financing Rate). Hence, bank loans have an advantage over bonds when interest rates rise, since the income flows adjust upward rather than remaining fixed. For this reason it is often said that bank loans have near-zero duration, despite having multi-year maturities (making for a comparison with cash).

Higher default recovery rates than HY

They enjoy another advantage over bonds which is their placement within the capital structure. If the debtor company has problems, bank loans have higher priority than bonds, which has historically resulted in higher default recovery rates.

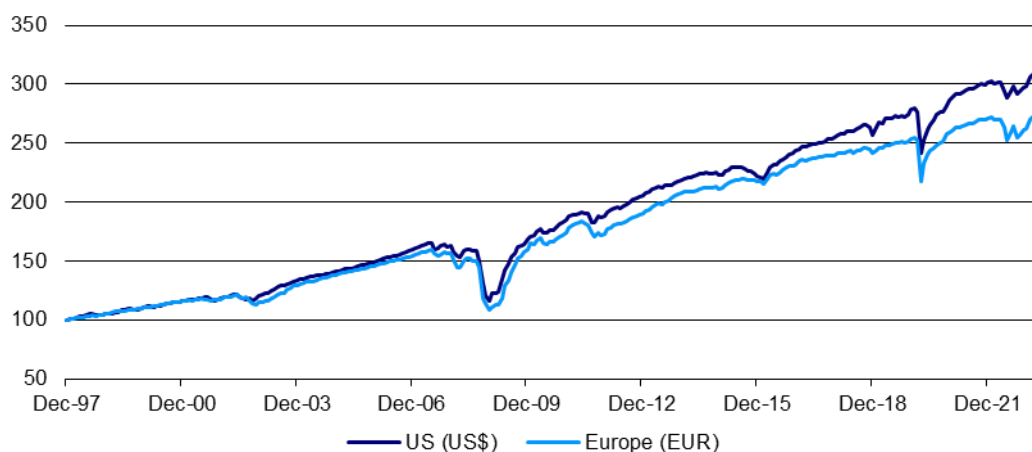
Equivalent size to HY markets

In terms of the size of the asset base, the market capitalisation of loans included in the Credit Suisse Leveraged Loan Index was US\$1.4trn on 31 March 2023 (source: Credit Suisse), compared to \$1.3trn for the Bloomberg US Corporate High Yield Index (source: Bloomberg). In Europe, the Credit Suisse Western Europe Leveraged Loan Index had a market capitalisation of €0.4trn on 31 March 2023, the same as that of the Bloomberg Pan-European High Yield Index. So, in both the US and Europe, the bank loans market appears to be roughly the same size as the respective high yield market.

Steady returns broken by periodic losses

As a starting point for our analysis, **Figure 2** shows the total return indices for the bank loans asset class in Europe and the US, as provided by Credit Suisse. Both follow a similar path suggesting that bank loans have provided positive returns since 1997, with lengthy periods of steady returns interrupted by periodic losses, notably during the global financial crisis (GFC) and the Covid pandemic (and recovery thereafter).

**Figure 2 – Credit Suisse leveraged loan total return indices (31/12/97 = 100)**



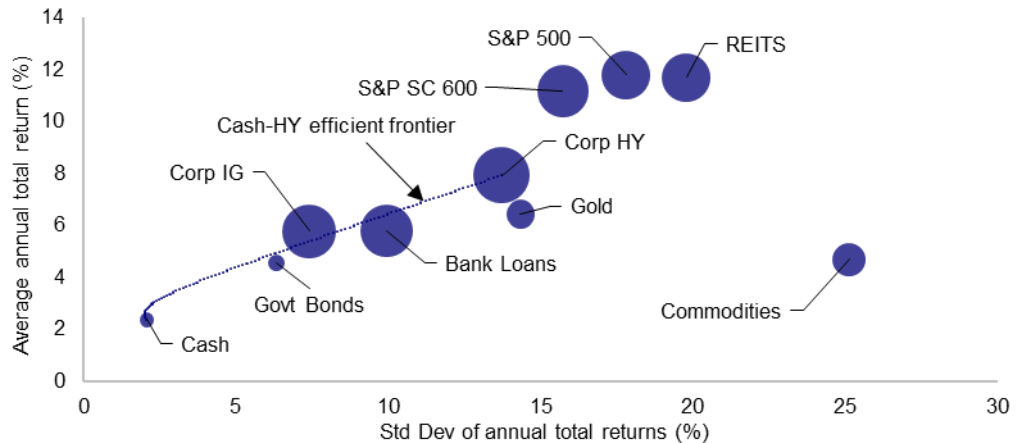
Notes: **Past performance is no guarantee of future results.** Monthly data from December 1997 to April 2023. Based on Credit Suisse Leveraged Loan Index (for US) and Credit Suisse Western Europe Leveraged Loan Index (for Europe). Indices show total returns and are indexed to 100 on 31 December 1997.  
Source: Credit Suisse, Bloomberg and Invesco Global Market Strategy Office

Somewhere between cash and HY in US

**What does history tell us about bank loans?**

**Figure 3** paints a more complete picture for the US from an asset allocation perspective, using data since 1992. Not surprisingly, given the characteristics that we outlined earlier, the volatility of bank loan returns has historically been between that of cash (and investment grade – IG) and HY. The same applies to average returns.

**Figure 3 – Risk versus reward for US assets (1992-2022)**



Notes: **Past performance is no guarantee of future results.** Based on calendar year returns from 1992 to 2022. Size of bubbles is in proportion to the average correlation with all other assets shown in the chart. “Cash-HY efficient frontier” describes the risk and reward outcomes for various combinations of cash and high yield (Corp HY). Returns are total returns in USD unless stated otherwise and are based on the following indices: Cash (ICE BofA 0-3m Treasury Total Return Index), Gold (London bullion market spot price in USD/troy ounce), Commodities (S&P GSCI), Govt Bonds (ICE BofA US Treasury Index), Corp IG (ICE BofA US Corporate Index), Corp HY (ICE BofA US High Yield Index), S&P 500 (S&P 500 Index), S&P SC 600 (S&P Small Cap 600 Index), REITS (GPR General US Index), Bank Loans (Credit Suisse Leveraged Loan Index). Source: Credit Suisse, ICE BofA, GPR, S&P GSCI, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

Though inside the cash-HY efficient frontier

On this basis, bank loans could be categorised as offering a choice somewhere between cash and HY, with more risk and reward than cash but less than HY. In that sense, bank loans could offer another choice along the risk spectrum, in the same way as government bonds and IG. However, it should also be noted that neither government bonds nor bank loans are on the efficient frontier between cash and HY, so that better outcomes could have been achieved by using different mixes of cash and HY.

Rarely extreme and rarely negative

**Figure 4** adds more colour to the analysis by showing the ranking of US assets on a calendar year basis. Bank loan returns are rarely at an extreme, appearing among the

**Figure 4 – Annual ranking of US assets by total returns (2000-2022)**

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
CTY	REITS	CTY	S&P 600	REITS	CTY	REITS	CTY	Govt	HY	Gold	Gold	REITS	S&P 600	REITS	REITS	S&P 600	S&P 500	Cash	S&P 500	Gold	REITS	CTY
49.7%	13.1%	32.1%	38.9%	32.1%	25.6%	36.5%	32.7%	14.0%	57.5%	29.3%	11.1%	19.2%	41.5%	29.9%	5.0%	26.2%	21.8%	2.0%	31.6%	24.8%	46.4%	26.0%
REITS	IG	Gold	REITS	S&P 600	Gold	Gold	Gold	Gold	Loans	REITS	Govt	S&P 500	S&P 500	S&P 500	S&P 500	HY	S&P 600	Loans	REITS	S&P 600	CTY	Cash
27.1%	10.7%	24.0%	38.1%	22.3%	17.0%	23.8%	31.8%	3.1%	44.9%	28.6%	9.8%	15.9%	32.3%	13.6%	1.3%	17.5%	13.6%	1.1%	24.6%	19.0%	40.4%	1.5%
Govt	S&P 600	Govt	S&P 500	CTY	REITS	S&P 500	Govt	Cash	Gold	S&P 600	REITS	HY	HY	IG	Govt	S&P 500	Gold	Govt	S&P 600	S&P 600	S&P 500	Gold
13.3%	9.5%	11.6%	28.5%	17.3%	12.9%	15.1%	9.1%	3.1%	27.1%	25.7%	8.9%	15.6%	7.4%	7.5%	0.8%	11.7%	12.6%	0.8%	22.8%	12.2%	28.3%	-0.4%
IG	Govt	IG	HY	HY	S&P 600	S&P 600	Cash	IG	HY	HY	IG	S&P 600	Loans	Govt	Cash	CTY	HY	Gold	Gold	IG	S&P 600	Loans
9.1%	6.8%	10.2%	28.1%	10.9%	7.6%	14.9%	5.5%	-6.8%	26.5%	15.2%	7.5%	15.4%	6.2%	6.0%	0.2%	11.4%	7.5%	-1.7%	18.7%	9.8%	27.0%	-1.1%
Cash	HY	REITS	Gold	S&P 500	Loans	HY	S&P 500	HY	HY	S&P 500	HY	IG	REITS	S&P 600	Loans	Loans	IG	IG	CTY	Govt	S&P 600	HY
6.6%	4.5%	3.8%	21.6%	10.5%	5.7%	11.7%	5.0%	-26.4%	26.5%	14.8%	4.4%	10.4%	1.9%	5.7%	-0.4%	9.9%	6.5%	-2.2%	17.6%	8.2%	5.4%	-11.2%
Loans	Cash	Cash	CTY	Loans	S&P 500	Loans	IG	Loans	S&P 600	Loans	S&P 500	Loans	Cash	HY	IG	Gold	CTY	HY	HY	HY	HY	Govt
4.9%	4.4%	1.8%	20.7%	5.6%	5.1%	7.3%	4.7%	-28.8%	25.7%	10.0%	2.1%	9.4%	0.2%	2.5%	-0.6%	9.0%	5.8%	-2.3%	14.4%	6.2%	5.4%	-12.9%
S&P 600	Loans	Loans	Loans	IG	Cash	Cash	HY	S&P 600	IG	IG	Loans	Gold	CTY	Loans	S&P 600	REITS	Loans	REITS	IG	Loans	Cash	IG
4.2%	2.6%	1.1%	11.0%	5.4%	3.3%	5.2%	2.2%	-31.1%	19.8%	9.5%	1.8%	5.6%	-1.2%	2.1%	-1.9%	6.5%	4.2%	-3.1%	14.2%	2.8%	0.0%	-15.4%
HY	Gold	HY	IG	Gold	Govt	IG	Loans	S&P 500	CTY	IG	S&P 600	CTY	S&P 600	IG	Cash	HY	IG	REITS	S&P 500	Loans	Cash	IG
-5.2%	1.4%	-1.9%	8.3%	5.0%	2.8%	4.4%	1.9%	-36.8%	13.5%	9.0%	1.1%	2.2%	-1.5%	0.2%	-4.6%	6.0%	3.7%	-4.5%	8.2%	0.5%	-1.0%	-16.2%
S&P 500	S&P 500	S&P 600	Govt	Govt	HY	Govt	S&P 600	REITS	Cash	Govt	Cash	Cash	Cash	Gold	Gold	Govt	Govt	S&P 600	Govt	REITS	Govt	S&P 500
-5.7%	-10.8%	-13.2%	2.3%	3.5%	2.7%	3.1%	-0.7%	-38.7%	0.4%	5.9%	0.2%	0.2%	-3.3%	-1.8%	-10.4%	1.1%	2.4%	-8.3%	7.0%	-9.2%	-2.4%	-18.3%
Gold	CTY	S&P 500	Cash	Cash	IG	CTY	REITS	CTY	Govt	Cash	CTY	CTY	Gold	CTY	CTY	Cash	Cash	CTY	Cash	CTY	Gold	REITS
-6.2%	-31.9%	-21.4%	1.3%	1.4%	-15.1%	-16.5%	-46.5%	-3.7%	0.3%	0.3%	-1.2%	0.1%	-27.3%	-33.1%	-32.9%	0.5%	1.1%	-13.8%	2.3%	-23.7%	-4.0%	-25.2%

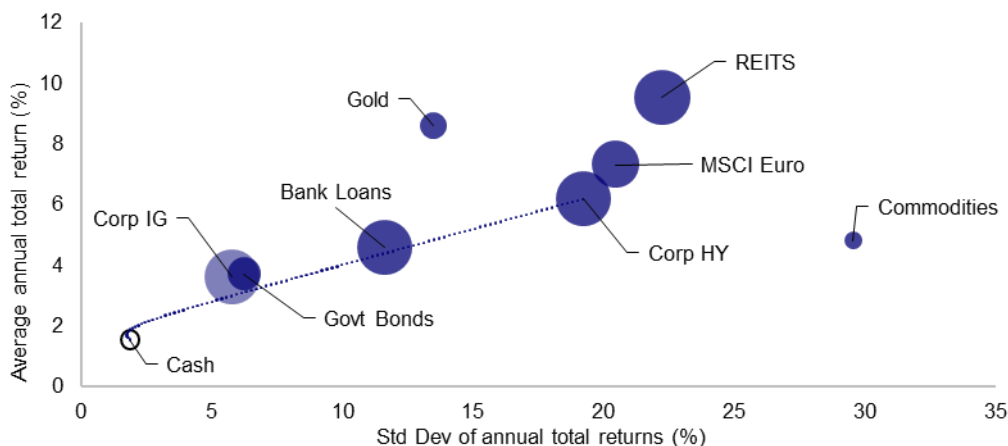
Notes: **Past performance is no guarantee of future results.** Based on calendar year returns from 2000 to 2022. Returns are total returns in USD unless stated otherwise and are based on the following indices: Cash is the ICE BofA 0-3m Treasury Total Return Index, Gold is the London bullion market spot price in USD/troy ounce, CTY (commodities) is the S&P GSCI index, Govt (government bonds) is the ICE BofA US Treasury Index, IG (investment grade credit) is the ICE BofA US Corporate Index, HY (high yield credit) is the ICE BofA US High Yield Index, S&P 500 is the S&P 500 Index, S&P SC 600 is the S&P Small Cap 600 Index, REITS (real estate investment trusts) is the GPR General US Index, Loans is the Credit Suisse Leveraged Loan Index. Source: Credit Suisse, ICE BofA, GPR, S&P GSCI, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

The same applies in Europe

bottom three assets in only two of the twenty-three years since 2000. The same applies to appearances in the top three. Going back to 1992 adds another appearance at either end of the spectrum, with loans being the top performing asset in 1994 (there has been no appearance in the bottom two since 1992 and only three negative years).

Turning to European markets, **Figure 5** shows a similar pattern of historical asset returns, though the timeframe is slightly shorter. In the period since 1998, riskier European assets have tended to generate higher returns. Though most of the asset categories in **Figure 5** are for the Eurozone, the bank loans category is for the broader Western European region (hedged into euros).

**Figure 5 – Risk versus reward for European assets (1998-2022)**



Notes: **Past performance is no guarantee of future results.** Based on calendar year returns from 1998 to 2022. Size of bubbles is in proportion to the average correlation with all other assets shown in the chart. “Cash-HY efficient frontier” describes the risk and reward outcomes for various combinations of cash and high yield (Corp HY). Returns are total returns in euros unless stated otherwise and are based on the following indices: Cash (ICE BofA Euro Currency 3-Month Deposit Bid Rate Average Index), Gold (London bullion market spot price converted to euro/troy ounce), Commodities (S&P GSCI converted to euros), Govt Bonds (ICE BofA Euro Government Index), Corp IG (ICE BofA Euro Corporate Index), Corp HY (ICE BofA Euro High Yield Index), MSCI Euro (MSCI Euro Index), REITS (FTSE EPRA Nareit Eurozone Index), Bank Loans (Credit Suisse Western Europe Leveraged Loan Index, hedged to euros). Source: Credit Suisse, ICE BofA, FTSE EPRA Nareit, MSCI, S&P GSCI, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

Outside the cash-HY efficient frontier and rarely negative

As in the US, bank loans in Europe seem to offer a risk-reward trade-off somewhere between cash and HY. However, European, bank loans have done better than could have been achieved by any combination of cash and HY (they are outside the cash-HY efficient frontier). European bank loans also seem to be more stable than many other local assets, with **Figure 6** showing that loans featured in the top or bottom three assets in only nine out of the 23 years shown (with only four negative years since 1998).

**Figure 6 – Annual ranking of Eurozone assets by total returns (2000-2022)**

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
CTY	Gold	REITS	HY	REITS	CTY	REITS	CTY	Govt	HY	Gold	Gold	REITS	Stocks	REITS	REITS	CTY	REITS	Gold	Stocks	Gold	CTY	CTY	
59.9%	6.9%	15.1%	28.6%	38.0%	44.7%	50.0%	19.7%	9.1%	74.9%	38.3%	14.8%	29.2%	23.8%	23.1%	17.4%	14.7%	17.7%	3.3%	26.2%	14.5%	51.0%	34.2%	
Govt	IG	CTY	REITS	HY	Gold	Stocks	Gold	Gold	Loans	CTY	Govt	HY	HY	Govt	Stocks	Gold	Stocks	Govt	REITS	Govt	Stocks	Gold	
7.2%	6.9%	12.1%	19.0%	14.6%	34.8%	21.7%	18.9%	8.5%	47.2%	16.6%	3.3%	27.2%	10.1%	13.2%	9.0%	12.2%	12.1%	1.0%	21.0%	4.9%	24.4%	6.2%	
REITS	Govt	Govt	Stocks	Stocks	REITS	HY	Stocks	Cash	REITS	REITS	CTY	Stocks	Loans	Gold	Loans	HY	HY	Loans	Gold	HY	Loans	Cash	
7.1%	5.9%	9.8%	18.6%	11.7%	28.5%	11.1%	10.4%	4.8%	43.1%	14.7%	2.1%	21.1%	8.7%	11.9%	3.1%	9.1%	6.7%	0.5%	20.8%	2.8%	4.6%	-0.1%	
IG	Cash	IG	Loans	CTY	Stocks	Gold	Cash	IG	Stocks	HY	IG	IG	REITS	IG	Govt	Loans	Loans	Cash	CTY	IG	REITS	Loans	
5.9%	4.5%	8.5%	12.2%	8.8%	25.5%	10.7%	4.2%	-3.3%	28.2%	14.3%	2.0%	13.0%	6.5%	8.3%	1.6%	6.5%	3.3%	-0.5%	19.8%	2.6%	3.8%	-3.3%	
Loans	REITS	Gold	IG	Govt	HY	Loans	Govt	Loans	Gold	Loans	Cash	Govt	IG	HY	HY	Stocks	IG	IG	HY	Loans	HY	Stocks	
4.9%	3.0%	5.2%	6.5%	7.7%	6.0%	6.0%	1.9%	-30.2%	23.2%	8.5%	1.2%	11.2%	2.4%	5.5%	0.8%	5.3%	2.4%	-1.1%	11.3%	2.4%	3.3%	-11.1%	
Cash	Loans	Cash	Govt	IG	Loans	Cash	Loans	HY	IG	IG	IG	Loans	Govt	Stocks	Cash	IG	Govt	HY	Govt	Cash	Gold	HY	
4.2%	1.5%	3.3%	4.0%	7.6%	5.5%	2.9%	1.0%	-34.2%	14.9%	4.8%	-0.6%	10.4%	2.3%	5.2%	-0.1%	4.7%	0.1%	-3.6%	6.8%	-0.5%	3.3%	-11.5%	
Gold	HY	Loans	Cash	Loans	Govt	IG	IG	REITS	CTY	Stocks	HY	Gold	Cash	Loans	Gold	REITS	Cash	REITS	IG	Stocks	Cash	IG	
0.2%	-13.9%	-1.9%	2.4%	6.9%	5.4%	0.6%	0.2%	-42.8%	10.0%	1.6%	-2.5%	4.0%	0.1%	2.0%	-0.2%	4.7%	-0.5%	-8.2%	6.3%	-1.6%	-0.7%	-13.9%	
Stocks	Stocks	HY	Gold	Cash	IG	Govt	HY	Stocks	Govt	Govt	Stocks	Cash	CTY	Cash	IG	Govt	Gold	CTY	Loans	REITS	IG	Govt	
-2.1%	-18.8%	-5.0%	1.1%	2.0%	4.0%	-0.5%	-2.2%	-43.6%	4.4%	1.1%	-12.9%	0.6%	-5.5%	0.1%	-0.4%	3.3%	-1.1%	-9.5%	5.0%	-7.4%	-1.0%	-18.2%	
HY	CTY	Stocks	CTY	Gold	Cash	CTY	REITS	CTY	Cash	Cash	-12.9%	-14.3%	-1.5%	-30.5%	-23.8%	-25.2%	-0.4%	-7.1%	-11.5%	-0.5%	-30.0%	-3.4%	-36.6%
-15.9%	-28.2%	-34.5%	0.4%	-2.6%	2.1%	-24.0%	-24.2%	-43.7%	1.5%	0.7%	0.7%	-1.5%	-30.5%	-23.8%	-25.2%	-0.4%	-7.1%	-11.5%	-0.5%	-30.0%	-3.4%	-36.6%	

Notes: **Past performance is no guarantee of future results.** Based on calendar year returns from 2000 to 2022. Returns are total returns in euros unless stated otherwise and are based on the following indices: Cash (ICE BofA Euro Currency 3-Month Deposit Bid Rate Average Index), Gold (London bullion market spot price converted to euro/troy ounce), CTY (S&P GSCI converted to euros), Govt (ICE BofA Euro Government Index), IG (ICE BofA Euro Corporate Index), HY (ICE BofA Euro High Yield Index), Stocks (MSCI Euro Index), REITS (FTSE EPRA Nareit Eurozone Index), Loans (Credit Suisse Western Europe Leveraged Loan Index, hedged to euros). Source: Credit Suisse, ICE BofA, FTSE EPRA Nareit, MSCI, S&P GSCI, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office



Bank loans have generated returns between cash and HY but not every year

Fed tightening isn't always associated with loans outperforming HY (a surprise)

Fed easing has gone with HY outperforming

Fed tightening/easing doesn't have the expected effect on loans vs cash performance

### The role of central banks

Having established that bank loans can be considered as lying somewhere between cash and HY over the long haul, we now turn to the shorter term, cyclical nature of the asset class. **Figures 3 and 5** suggest a ranking of performance that runs in ascending order from cash to bank loans to HY. However, **Figures 4 and 6** show that it is not that straightforward, with many years when that pattern is either reversed or broken.

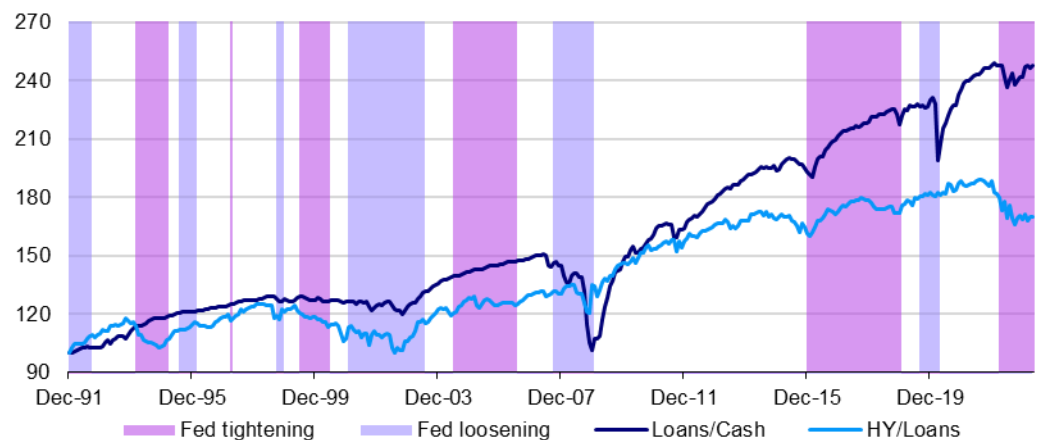
Looking at the full histories at our disposal (since 1992 for the US and 1998 for Europe), the cash-loans-HY hierarchy was broken in 13 out of 31 years (42%) in the US and 11 out of 25 years (44%) in Europe. That suggests it is hard to rely on bank loans delivering returns between cash and HY in any given year. However, it should be noted that the years in which the hierarchy was broken in both regions can largely be grouped into three periods: the Russian crisis/dotcom bubble era (1998-2002), the Global Financial Crisis years (2007-8) and the inflation years (2021-22). Total reversal of the ranking (to HY-loans-cash) occurred in roughly half of the years in which the hierarchy was broken.

Given that bank loans offer a floating rate and have close to zero duration, it would be no surprise if they outperformed HY when central banks are raising interest rates. **Figure 7** offers some support to this notion but it is less convincing than we expected. The "HY/Loans" curve shows the performance of HY relative to that of bank loans (when it rises, HY is outperforming loans). The chart shows five rate hike periods (ignoring the rapid flirtation in March 1997) and loans outperformed HY in three of them, including during the most recent tightening phase that started in March 2022. However, the reverse was true in the two tightening episodes that started in June 2004 and December 2015 (though loans did outperform prior to the rate hike phase that started in December 2015, perhaps helped by Fed balance sheet tapering that started in December 2013).

On the other hand, periods of Fed loosening tend to witness outperformance by HY versus bank loans, which is as we would expect, though the outperformance is limited.

When it comes to the comparison with cash, bank loans have also outperformed during three of the five tightening cycles, which is not what we would have imagined. Perhaps this is due to the fact that the economy is usually doing well during such phases, so that the spread available on bank loans can generate higher returns than cash, with little disruption from defaults. This notion may also be supported by the fact that notable periods of underperformance versus cash tend to come during Fed loosening periods, which are likely to be periods of economic weakness and rising defaults.

**Figure 7 – The Fed and relative performance of US cash, bank loans and high yield**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from December 1991 to April 2023. "Loans/Cash" shows the total return index for bank loans (Credit Suisse Leveraged Loan Index) divided by the total return index for cash (ICE BofA 0-3m Treasury Total Return Index), rebased to 100 at December 1991. "HY/Loans" shows the total return index for high yield (ICE BofA US High Yield Index) divided by the total return index for bank loans, rebased to 100 at December 1991. All returns in USD. "Fed tightening" shows periods when the US Federal Reserve was raising its policy rate. "Fed loosening" shows periods when the US Federal Reserve was reducing its policy rate.

Source: Credit Suisse, ICE BofA, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

Likewise, no clear tendency for ECB tightening to be associated with loans outperforming HY

But easing tends to see HY outperform loans

No clear ECB policy effect on loans vs cash performance

Impact of central bank policy changes is unreliable, at best

Turning to Europe, the relationship between bank loans performance and central bank policies is unlikely to be precise because the loans index covers economies managed by a range of central banks (in particular, the ECB and the BOE). We have chosen the ECB as the comparator central bank, given the size of the Eurozone economy and **Figure 8** shows the results.

Comparing performance to HY, we would expect loans to outperform when the ECB is tightening and to underperform when it is loosening. Looking at periods of ECB tightening, there does not seem to be systematic outperformance of HY by loans. It was certainly the case during the 1999-2000 tightening event but not really during the three subsequent tightening episodes. If we want to be generous, we could say that outperformance by loans did occur either just before the start of ECB tightening (perhaps in anticipation, as in 2022) or just after (perhaps in delayed reaction, as economic effects became apparent, as in 2008 and 2011).

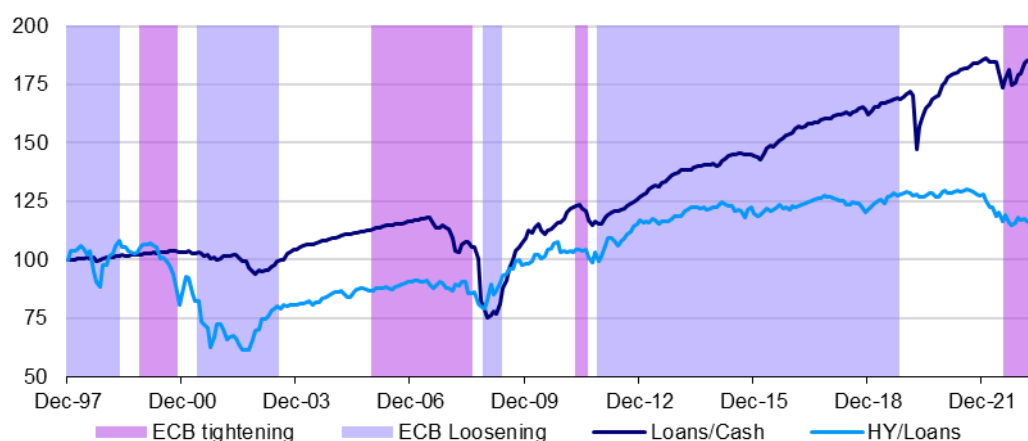
During periods of ECB loosening, there is a clearer pattern of outperformance by HY over bank loans (in four out of four cases) but with significant volatility in the earlier episodes. This is as we would expect.

The evidence is likewise mixed when it comes to comparing bank loans to cash. During ECB tightening periods, loans outperformed in two episodes and underperformed in the other two (we would expect loans to underperform cash when the central bank tightens). We would expect loans to outperform cash when the ECB loosens but the evidence for that is mixed, at best (except for the prolonged easing that occurred between 2011 and 2019).

So, the relative performance of bank loans during central bank cycles is not as easy to categorise as theory might suggest. Looking across the US and Europe, we conclude the following:

- Central bank tightening: there is no systematic tendency for bank loans to outperform HY nor for cash to outperform loans, counter to our expectations.
- Central bank loosening: there is a systematic tendency for HY to outperform loans (as we would expect) but no systematic tendency for cash to outperform loans (counter to our expectations).

**Figure 8 – The ECB and performance of Eurozone cash, bank loans and high yield**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from December 1997 to April 2023. "Loans/Cash" shows the total return index for bank loans (Credit Suisse Western Europe Leveraged Loan Index, hedged to euros) divided by the total return index for cash (ICE BofA Euro Currency 3-Month Deposit Bid Rate Average Index), rebased to 100 at December 1997. "HY/Loans" shows the total return index for high yield (ICE BofA Euro High Yield Index) divided by the total return index for bank loans, rebased to 100 at December 1997. All returns are in euros. "ECB tightening" shows periods when the European Central Bank was raising its policy rate. "ECB loosening" shows periods when the European Central Bank was reducing its policy rate (in the period before the ECB started setting policy for the Eurozone in January 1999, the Bundesbank was used as a proxy).

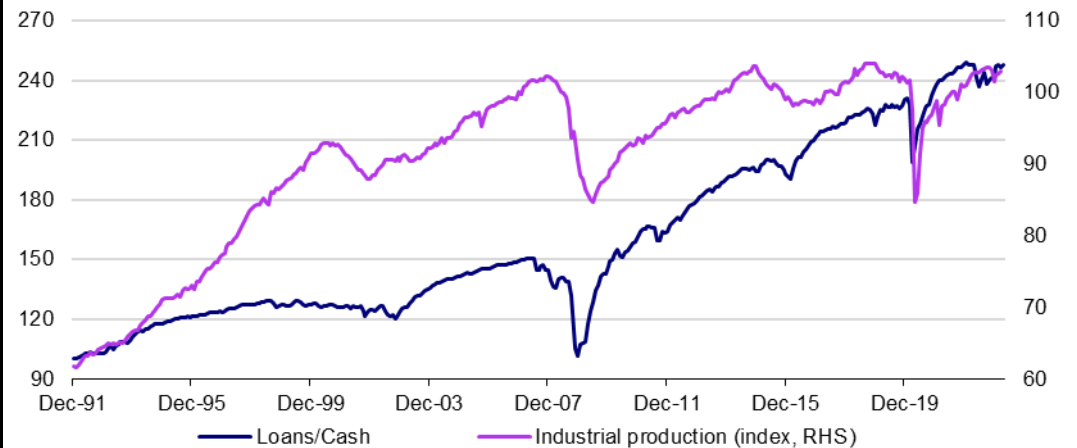
Source: Credit Suisse, ICE BofA, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

The performance of loans versus cash is cyclical (positive during upswings and negative during recessions)

### The role of the economic cycle

The economic cycle should be important for the relative performance of bank loans, given that we expect loan defaults to increase during recession. **Figure 9** uses industrial production as a proxy for the economic cycle and seems to confirm the cyclicity of bank loans versus cash. Bank loans have tended to outperform cash during economic upswings (helped by the interest rate spread offered on loans) and underperform during downswings. The same is broadly true for the Eurozone (not shown). In both regions, markets sometimes anticipate the economy, with the outperformance/underperformance of loans starting before the economic upswing/downswing.

**Figure 9 – US industrial production and US bank loans versus US cash**



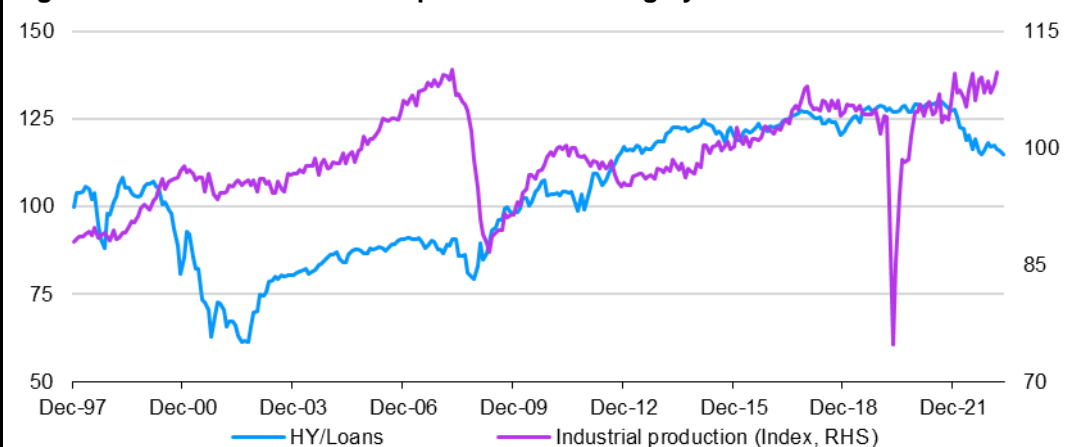
Notes: **Past performance is no guarantee of future results.** Based on monthly data from December 1991 to April 2023. "Loans/Cash" shows the total return index for bank loans (Credit Suisse Leveraged Loan Index) divided by the total return index for cash (ICE BofA 0-3m Treasury Total Return Index), rebased to 100 at December 1991. All returns in USD.

Source: Credit Suisse, ICE BofA, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

The reverse is broadly true when comparing loans to HY (the latter is more cyclical). Fed purchases of HY may explain the breakdown in the relationship in recent years

**Figure 10** shows that the same cyclical pattern holds when comparing HY and loans in the Eurozone, though this time HY is the most cyclical (HY tends to underperform loans during economic downswings and vice-versa). The same is broadly true in the US (not shown here). Also true in both regions is that the relationship with industrial production seems to have broken down since around 2018. Perhaps Fed purchases of HY instruments in the second half of 2020 help explain why HY shrugged off the lockdown collapse in industrial production in 2020, when compared to loans. Active Fed selling of HY since mid-2021 may also explain why it has underperformed loans since then.

**Figure 10 – Eurozone industrial production and high yield versus bank loans**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from December 1997 to April 2023. "HY/Loans" shows the total return index for high yield (ICE BofA Euro High Yield Index) divided by the total return index for bank loans (Credit Suisse Western Europe Leveraged Loan Index), rebased to 100 at December 1997. All returns in euros.

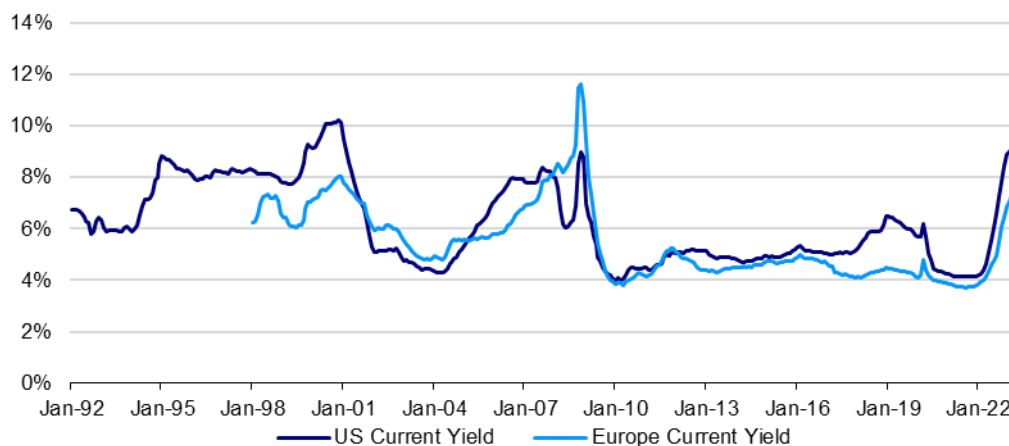
Source: Credit Suisse, ICE BofA, Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

Current yields are as high as any time since the GFC, perhaps in reaction to the rise in central bank rates

### Are bank loans attractive?

Yield is an obvious starting point for assessing the attractiveness of bank loans. The simplest formulation is current yield which divides the coupon rate (benchmark rate plus stated spread or margin) by the current price. As such it takes account of the current flow of income (which changes as the benchmark rate changes) and the market value placed upon the future stream of cash flows (including repayment of principal). **Figure 11** shows the history of the current yield on Credit Suisse Leveraged Loan indices. Those yields are as elevated as at any time since the 1990s, with the exception of early 2000s credit episode in the US and the Global Financial Crisis (GFC) in Europe.

**Figure 11 – Current yield on US and European bank loan indices**

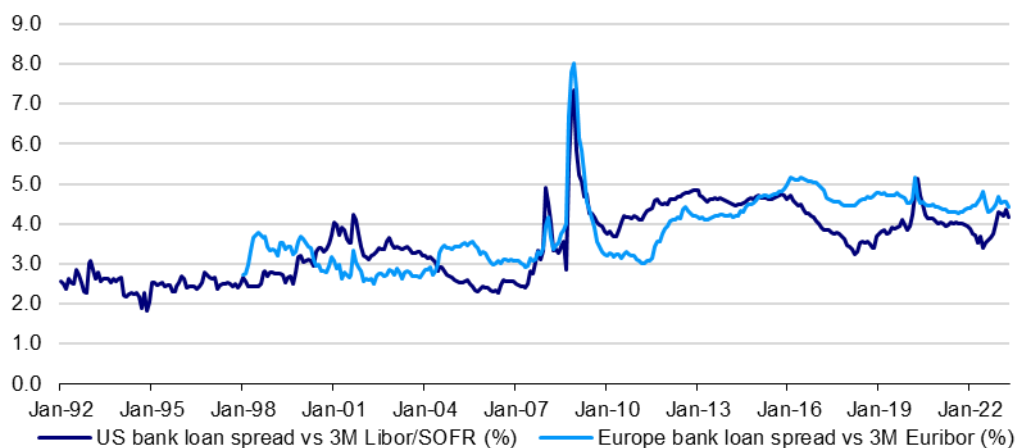


Notes: **Past performance is no guarantee of future results.** Based on monthly data from January 1992 to April 2023. Current yields are shown for Credit Suisse Leveraged Loan Indices in the US and Europe (Western Europe). Source: Credit Suisse and Invesco Global Market Strategy Office

However, spreads versus cash rates are also relatively wide

Of course, looking at yield in isolation gives no perspective. **Figure 12** compares bank loan current yield to the three-month benchmark rates most commonly used (LIBOR and then SOFR in the US and EURIBOR in Europe). The spread applied to a bank loan is normally constant but the current yield also takes account of changes in the market price for that loan. Hence, the current yield spread is an expression of the bank loan risk felt by market participants. **Figure 12** shows that this measure of risk peaked during the GFC (for obvious reasons) but that there have also been other spikes, including the early 2000s in the US and the early stages of the Covid pandemic. Spreads also remained elevated during the post GFC period of very low or negative central bank rates. Current yield spreads are relatively generous compared to historical norms.

**Figure 12 – Bank loan current yield spread versus three-month cash rates (%)**



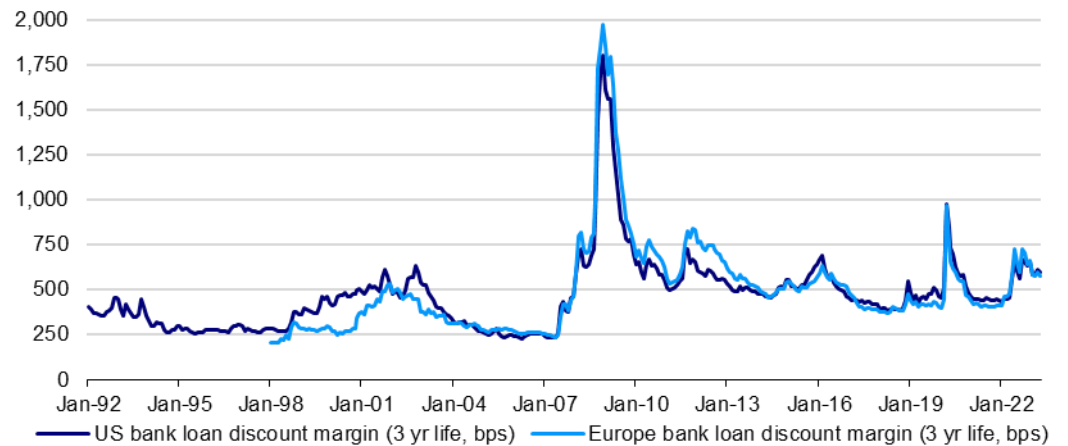
Notes: **Past performance is no guarantee of future results.** Based on monthly data from January 1992 to April 2023. Spreads are calculated as the difference between the current yield on the bank loan index and three-month cash rate. Bank loan indices are Credit Suisse Leveraged Loan indices for the US and Western Europe. Three-month cash rates are LIBOR (then SOFR from March 2022) for the US and EURIBOR for Western Europe. Source: Credit Suisse, Refinitiv Datastream and Invesco Global Market Strategy Office



Discount margins are within the post-GFC range, suggesting normal valuation versus cash

However, current yield only takes account of the prevailing interest rate, with no regard for how it may change. An alternative is to view yield as the internal rate of return (IRR) that equates the present value of cash flows (coupons plus redemption at par) to current price (see the footnote to **Figure 13**). The discount margin is the difference between the IRR and benchmark rate (3-month LIBOR, for example). Among other factors, discount margins will be impacted by the slope of the yield curve and perceptions of risk and are currently within the range that has prevailed since the GFC (**Figure 13** focuses on 3-year life as that is the most common maturity within bank loan indices).

**Figure 13 – Discount margin on US and European bank loan indices (3-year life)**

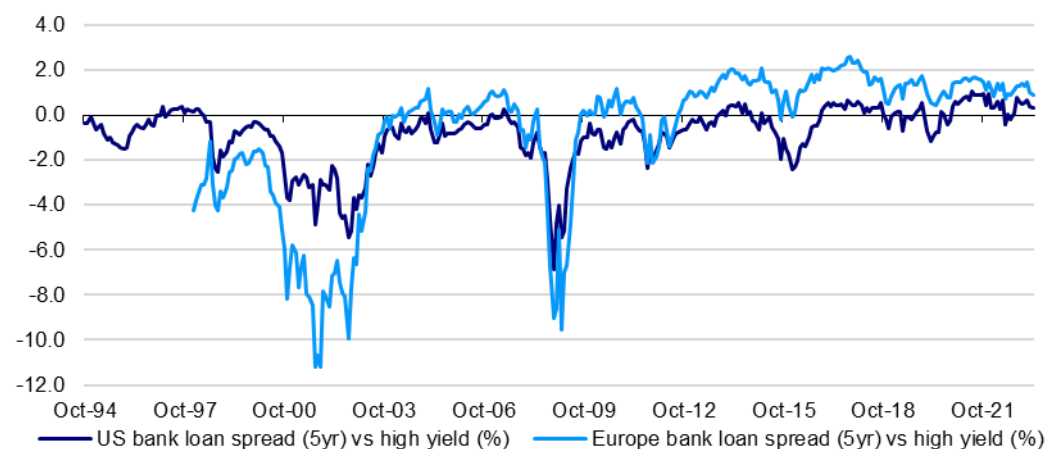


Notes: **Past performance is no guarantee of future results.** Based on monthly data from January 1992 to April 2023. Discount margin is the internal rate of return (IRR) on 3-year life loans minus the benchmark interest rate used to set loan repayment rates. IRR is the discount factor that equates cash flows (coupon plus redemption at par) to current price. The coupon rate is the 3-year interest rate swap rate plus the stated margin. Discount margins are shown for Credit Suisse Leveraged Loan Indices in the US and Europe (Western Europe). Source: Credit Suisse and Invesco Global Market Strategy Office

Bank loan yield spreads versus HY appear quite favourable, especially in the US

Finally, given bank loan similarities to high yield, it may be worth comparing yields across the two asset classes. **Figure 14** compares the bank loan yield (5-year life to match high yield index maturity) to the yield on high yield (yield-to-worst). Given the higher volatility of high yield as an asset class, it wouldn't be a surprise to see a negative spread between bank loan and high yield indices, which used to be the case. However, since the GFC a positive spread has been more common, especially in Europe. Current spreads appear more favourable towards bank loans in the US.

**Figure 14 – Bank loan (5-year life) yield spread versus high yield (%)**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from October 1994 to April 2023. Spreads are calculated as the difference between the yield (5-year life) on the bank loan index and the yield-to-worst (YTW) on the respective high yield index. Bank loan yield is the discount factor that equates cash flows (coupon plus redemption at par) to current price. The coupon rate is the 5-year interest rate swap rate plus the stated margin. Bank loan indices are Credit Suisse Leveraged Loan indices for the US and Western Europe. High yield indices are ICE BofA US High Yield Index and ICE BofA Euro High Yield Index. Source: Credit Suisse, ICE BofA, Refinitiv Datastream and Invesco Global Market Strategy Office

Current yield appears to have limited predictive power concerning future returns on US loans

Discount margin seems to be more reliable

### Are valuations any guide to future returns?

Using data from January 1992 to April 2018, it would appear that current yield has limited predictive power for the return on bank loans in the US (the data period ends in April 2018 to allow a five-year future return period). In fact, the correlation between current yield and returns over the following 1-year, 2-year and 3-year periods are negative, which is not what was expected. The strongest positive relationship was with 5-year return period (correlation 0.22, t-stat 3.92, p-value 0.0001).

The current yield spread (current yield minus 3-month LIBOR/SOFR) seems to work better than current yield over investment horizons up to three years. However, discount margin (3-year life) seems to have even better predictive power, with correlations between 0.48 and 0.54, depending on the future return period (all appear to be statistically significant, with t-stats above 9.6 and p-values below  $3 \times 10^{-19}$ ). **Figure 15** shows the relationship between the discount margin and total returns over the next five years. This was not the return period that gave the highest correlation (only 0.48 versus 0.54 for two years) but the relationship seems to have been the strongest since the GFC.

**Figure 15 – US bank loan discount margin and future returns (%)**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from January 1992 to April 2023. Discount margin is the internal rate of return (IRR) on 3-year life loans minus the benchmark interest rate used to set loan repayment rates. IRR is the discount factor that equates cash flows (coupon plus redemption at par) to current price. The coupon rate is the 3-year interest rate swap rate plus the stated margin. Discount margin is shown for Credit Suisse US Leveraged Loan Index. “5-yr annualised total return (%)” shows the returns over the next five years, based on the total return version of the same index in USD. Source: Bloomberg, Credit Suisse and Invesco Global Market Strategy Office

But discount margin isn't good at predicting losses

That requires foresight about recessions, which isn't easy

But it may not matter if investment horizons are long enough

**Figure 15** seems to suggest that higher discount margins are associated with higher future returns (hence the positive correlation). However, though it appears to be a reasonable predictor of periods of strong future returns, it has less success in predicting big future losses (or low returns). This suggests that strong returns are generated (and predicted) by attractive valuations, while big losses are generated by recessions associated with “events” such as the GFC or the Covid pandemic (remember that the returns in the chart show what happened over the next five years so that the GFC losses appear around 2004 and the pandemic losses show in the five years from 2015).

Successfully forecasting big losses on bank loans would appear to rely more on an ability to predict recessions (see **Figure 9** for example, which shows the performance of US bank loans relative to cash versus industrial production). Experience suggests that is not easy, as suggested by economist Paul Samuelson when he said that “the stock market has predicted nine of the last five recessions” (Newsweek 1966). We frequently predict recessions that never occur and miss the ones that do. For instance, who foresaw in 2019 the deep recession that would occur in early 2020 as a result of Covid.

However, that lack of ability to accurately forecast recessions may not be so critical, so long as our investment horizon stretches beyond a year. **Figure 2** shows that the big downdrafts that came with the GFC and the pandemic were soon forgotten, with total return indices quickly recovering to something like the previous trend.

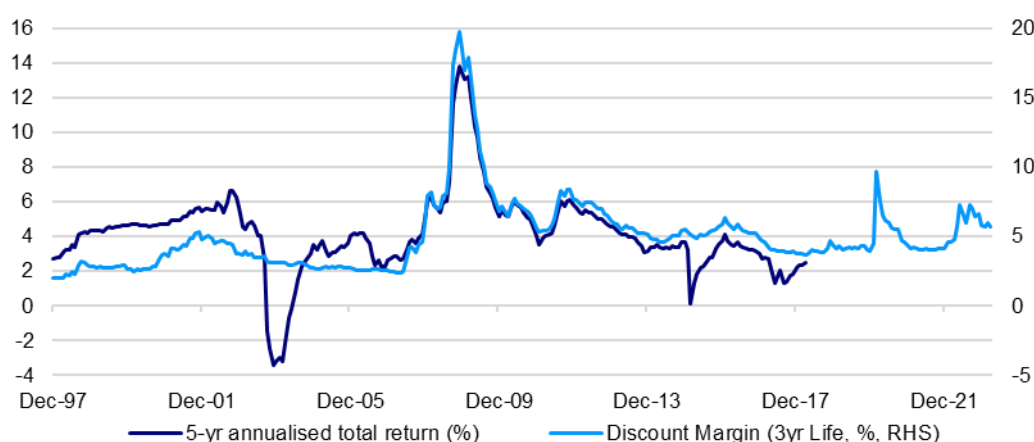
Current yield seems to work better in Europe

Employing the same analysis for European bank loans, using data from January 1992 to April 2018, the results are overall better than for the US. Current yield has limited predictive power for the return on bank loans over one year but the correlation is positive, as expected. The correlation increases with investment horizon, reaching 0.41 for five-year returns (t-stat of 7.7 and p-value of  $1.7 \times 10^{-13}$ , suggesting statistical significance). In fact the correlations also appear to be statistically significant for three- and four-year return horizons, though they are not that high (0.18 and 0.25, respectively).

Discount margin seems to be more reliable

Again, the current yield spread (current yield minus 3-month EURIBOR) has worked better than yield over investment horizons up to three years. As with the US, discount margin (3-year life) seems to have even better predictive power, with correlations between 0.60 and 0.76, depending on the future return period (all appear to be statistically significant, with t-stats above 12.7 and p-values below  $1.1 \times 10^{-29}$ ).

**Figure 16 – Europe bank loan discount margin and future returns (%)**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from December 1997 to April 2023. Discount margin is the internal rate of return (IRR) on 3-year life loans minus the benchmark interest rate used to set loan repayment rates. IRR is the discount factor that equates cash flows (coupon plus redemption at par) to current price. The coupon rate is the 3-year interest rate swap rate plus the stated margin. Discount margin is shown for Credit Suisse Western Europe Leveraged Loan Index. “5-yr annualised total return (%)” shows the returns over the next five years, based on the total return index hedged into Euros. Source: Bloomberg, Credit Suisse and Invesco Global Market Strategy Office

As in the US, discount margin is a good predictor of returns on European loans, outside of recessions

**Figure 16** shows the relationship between the discount margin and total returns over the subsequent five years for European bank loans. The correlation appears to have been particularly elevated since 2007 but, as in the US, the discount margin appears to be a better predictor of strong performance than it is of losses or low returns. Again, strong returns seem to be the result of attractive valuations (generous discount margin) and unattractive valuations (narrow discount margin) have been associated with limited returns. However, really poor investment outcomes appear to have more to do with recessions than with valuations.

A long investment horizon helps see through recessions

Hence, an ability to forecast recessions would be useful but even if we miss them, **Figure 2** suggests that returns will soon recover, with total return indices returning to something like the pre-recession trend within a number of years. However, the successive blows of the GFC and the Eurozone crisis seemed to have a long-term dampening effect on returns in Europe.

Discount margins are currently “normal”, suggesting returns could be “average” but we worry about recession

As of end-April 2023, the discount margin on both US and European bank loans was in line with the norms that have existed since the GFC. Discount margins are not wide enough to suggest there will be very strong returns (in our opinion). Nor are they narrow enough to point to low returns, assuming recession is avoided. We think that some (but not all) parts of the global economy continue to weaken and wouldn’t be surprised if some countries/regions experienced recession later this year. However, that is far from certain and, if it were to happen, we suspect it would be relatively shallow.

The next section will explore a method for predicting returns on bank loans.

Ingredients for return forecasts

We expect Fed rates to fall and ECB rates to rise and then fall

Money market spreads close to normal

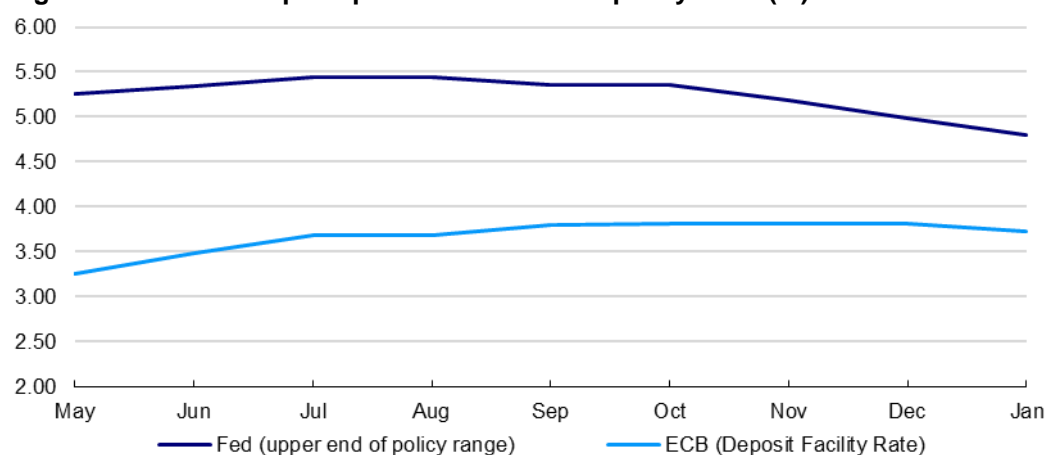
### Projecting returns on bank loans

Within our asset allocation framework, we project 12-month returns on each asset class. Projecting 12-month returns on bank loans requires a number of ingredients:

- Forecasts for central bank policy rates
- Anticipated changes in the spread between benchmark rates (3-month LIBOR/SOFR and EURIBOR) and central bank policy rates
- Expected change in bank loan current yield spread versus benchmark rate
- Projected default and recovery rates

Forecasting central bank policy rates is relatively straightforward. If nothing else, markets can help us and **Figure 17** shows the current market implied path of Fed and ECB policy rates. Further rate hikes are expected (especially for the ECB) before rates start to decline. For the purposes of this process, we assume that in 12 months Fed rates will be 100 bps lower than now, while ECB rates will be in line with current rates.

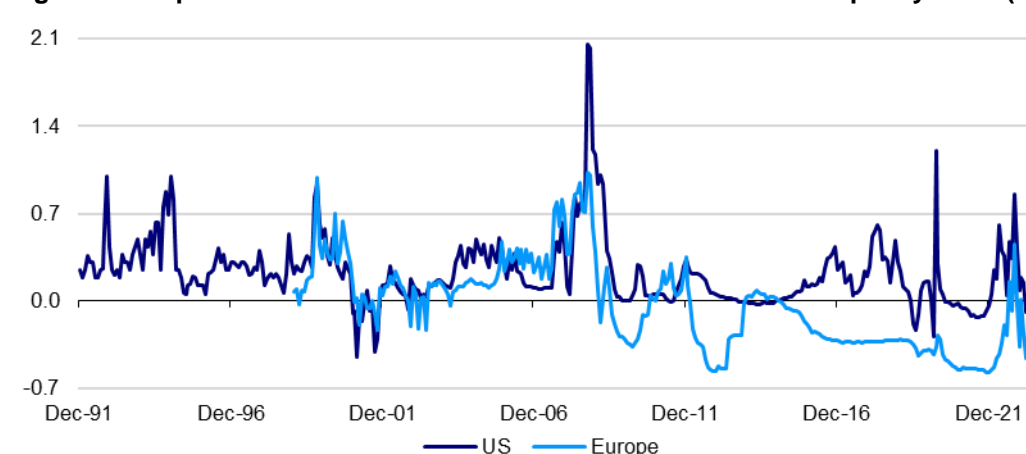
**Figure 17 – Market implied path of central bank policy rates (%)**



Notes: From May 2023 to January 2024. Based on Fed Funds Futures (for the Fed policy range upper end) and Overnight Index Swaps (for the ECB Deposit Facility Rate), as calculated by Bloomberg. Rates are calculated for central bank policy meeting dates. For months where there is no meeting, we show the same rate as the month before. As of 24 May 2023. Source: Bloomberg and Invesco Market Strategy Office

Of course, that is not the end of the story, as loan benchmark rates (LIBOR/SOFR and EURIBOR) do not exactly match central bank rates. **Figure 18** suggests those spreads are close to the historical norms since end-2009. The only adjustment to get back to the historical norm is a minor 4 basis points of widening in the US.

**Figure 18 – Spread on bank loan benchmarks versus central bank policy rates (%)**

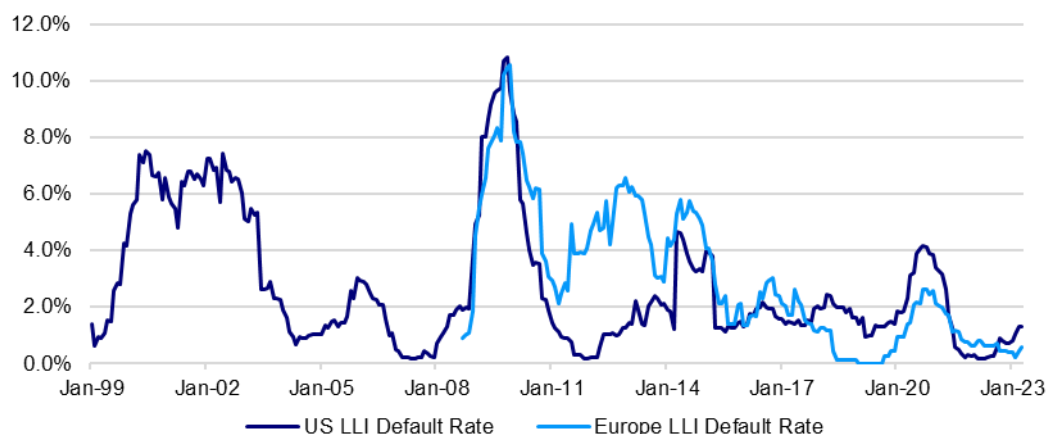


Notes: **Past performance is no guarantee of future results.** Based on monthly data from December 1991 to April 2023. US spread is 3M LIBOR (or SOFR since March 2022) less the upper end of the Federal Reserve's target policy range. Europe spread is 3M EURIBOR minus the ECB's Main Refinancing Rate. Source: Bloomberg, Refinitiv Datastream and Invesco Global Market Strategy Office

Default rates are low to middling

As with high yield, defaults impact investment returns on bank loans. However, recovery rates tend to be higher for bank loans than for high yield (the default rate comparison is more complex). **Figure 19** shows default rates for Morningstar Leveraged Loan Indices.

**Figure 19 – Bank loan default rates (%)**



Notes: **Past performance is no guarantee of future results.** Monthly data from January 1999 to April 2023. Based on Morningstar LSTA US Leveraged Loan Index and Morningstar European Leveraged Loan Index. Default rates are based on loan values outstanding and calculated on a trailing 12-month basis. Source: Morningstar and Invesco Global Market Strategy Office

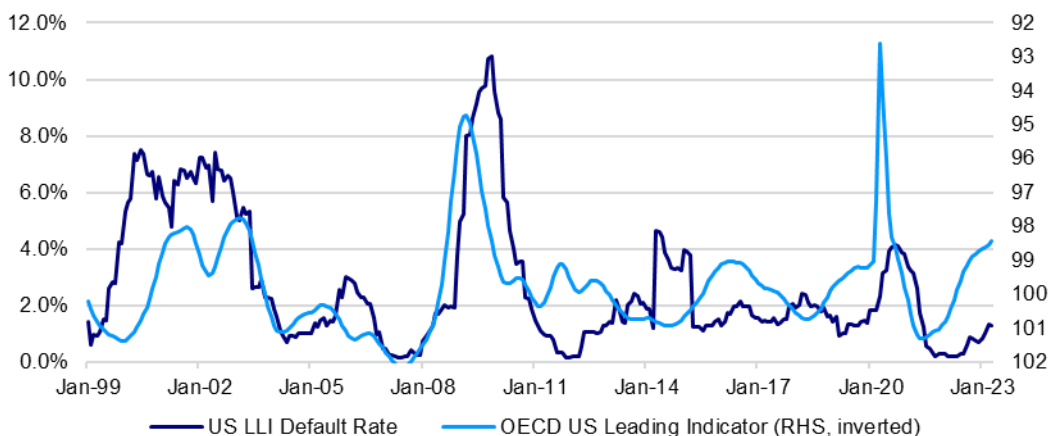
But they are cyclical and rise during recessions

There is reason to believe that default rates are inversely related to the economic cycle. **Figure 20** offers support for that notion, with US defaults showing a degree of inverse correlation to the OECD US Leading Indicator. The correlation over the period in the chart is -0.46, which is better than that for industrial production growth (-0.37) and the ISM Manufacturing Index (-0.27). To be fair the Conference Board Leading Economic Indicator has a better correlation (-0.57) but the OECD version looks more reliable to us, especially in leading changes in the trend of defaults. The correlations are not as high in Europe, which is no surprise given the dispersed nature of the European economy.

We expect a normalisation of default rates over the next 12m

Right now those Morningstar default rates (1.3% and 0.6% for the US and Europe, respectively, as of April 2023) are below historical averages (2.7% and 3.0% since January 1999 for the US and September 2008 for Europe). However, defaults appear to be on the rise in the US, which is no surprise given the deterioration in the leading indicator. The trend is less clear in Europe, though the Credit Suisse default rate is 1.9% and has risen in the last year (as we would have expected). We expect default and recovery rates to normalise in both regions over the coming 12 months.

**Figure 20 – US bank loan default rate and leading indicator**



Notes: **Past performance is no guarantee of future results.** Based on monthly data from January 1999 to April 2023. Based on Morningstar LSTA US Leveraged Loan Index. Default rates are based on loan values outstanding and calculated on a trailing 12-month basis. OECD US Leading Indicator is amplitude adjusted. Source: Morningstar, OECD, Refinitiv Datastream and Invesco Global Market Strategy Office



A guide to the return projection process

The above assumptions are laid out in **Figure 21**, along with the resultant total return projections. Total return includes income (calculated quarterly from current yield, assuming a straight-line movement from the current to the “In 12m” rate), credit losses (calculated quarterly, assuming the “In 12m” default and recovery rates apply throughout the next 12 months) and price effects (based on the assumption that three-month SOFR/EURIBOR spreads versus central bank rates and bank loan current yield spreads versus SOFR/EURIBOR normalise to the averages seen since December 2009, while the contract loan rate spread versus benchmark rates remains unchanged).

Starting with central bank rate forecasts to calculate income flows

In constructing the current yield for bank loans, it is assumed that Fed rates decline over the next 12 months, while ECB rates are expected to be the same in 12 months, having risen in the meantime. For the sake of simplicity, that intervening hump in ECB rates is ignored when calculating quarterly income flows -- a straight-line process from the current to “In 12m” rates is employed.

Predicted price changes rely on assumed movement in current yield spread

Price changes are built using the forecast changes in current yield and coupon rate. Current yield is coupon rate divided by current price, with coupon rate equal to the contractual spread plus the benchmark (three-month SOFR/EURIBOR). Coupon rates are forecast by assuming that the contractual spread remains constant. Hence, price movements are effectively determined by the change in current yield spread.

Narrowing current yield spread boosts predicted European returns

If the current yield spread is expected to narrow, then price should rise and vice-versa. This explains why the total return on European loans is projected to be higher than that on US loans, despite the lower current yield and higher assumed defaults in Europe. The current yield spread in Europe needs to narrow to move back to the historical average (since end-2009), while it needs to marginally widen in the US.

We assume normalisation of default and recovery rates, which penalises Europe

Finally, the default rates shown in **Figure 21** are based on Credit Suisse indices and are different to the Morningstar data in **Figures 19** and **20**. All of the other data that we use is based on Credit Suisse indices, so we prefer to use the Credit Suisse defaults, even though we don’t have the full history. The current 2.0% default rate in the US appears reasonably aligned with post-GFC norms and the recovery rate of 47% seems a bit low. Hence, we assume no change in the default rate and predict a slight increase in the recovery rate to 50%. On the assumption that the European economy slows, we project an increase in the default rate to 2.25% and a decline in the recovery rate to 50%.

Projected return of 7%-8% would fall to 2%-3% with GFC style defaults

The projected 12m total returns for US and European bank loans are 7.5% and 7.7%, respectively. This compares well with what we expect to earn on cash over that period and could rival the returns on HY where spreads are relatively narrow. The obvious risk is that deep recession could increase defaults but GFC style default rates (10%) and recovery rates (40%) would still allow returns of 2%-3% (according to our estimates).

**Figure 21: 12-month assumptions and projected total returns on bank loans (%)**

	US		Europe		
	28/04/2023	In 12m	28/04/2023	In 12m	
Fed rate	5.00	4.00	ECB rate	3.50	3.50
SOFR	5.08	4.12	EURIBOR	3.27	3.25
Current Yield	9.24	8.31	Current Yield	7.69	7.59
Default Rate	2.00	2.00	Default Rate	1.90	2.25
Recovery Rate	47.00	50.00	Recovery Rate	57.00	50.00
<b>Total Return (USD)</b>		<b>7.52</b>	<b>Total Return (EUR)</b>		<b>7.68</b>

Note: **These views may not come to pass.** Based on Credit Suisse Leveraged Loan Indices in the US and Europe (Western Europe). Fed rate is the upper bound of the Federal Reserve Funds Rate. ECB rate is the ECB’s Main Refinancing Rate. Default and Recovery rates are for trailing 12-month periods. SOFR and EURIBOR are three-month rates. Total return includes income (calculated quarterly from current yield, assuming a straight-line movement from the current to the “In 12m” rate), credit losses (calculated quarterly, assuming the “In 12m” default and recovery rates apply throughout the next 12 months) and price effects (based on the assumption that SOFR/EURIBOR spreads versus central bank rates and bank loan current yield spreads versus SOFR/EURIBOR normalise to the averages seen since December 2009).

Source: Bloomberg, Credit Suisse, Refinitiv Datastream and Invesco Global Market Strategy Office.

	<b>Conclusions</b>
Bank loans worthy of consideration	Our analysis suggests that the market capitalisation of the bank loan asset class is now roughly equivalent to that of high yield credit in both the US and Europe. It is thus an asset class that merits consideration.
Somewhere between cash and high yield	Not surprisingly, given its characteristics, the bank loan asset class occupies a place in the risk-reward space somewhere between cash and high yield (HY). Its income flows come from variable interest rates (like cash) but are subject to defaults (like HY).
Bank loans tend to outperform cash...	Over time, it has generated higher returns than cash but with more volatility and has underperformed during recessions. There has been no systematic relationship between central bank interest rate cycles and the performance of bank loans relative to cash.
...but underperforms HY	The bank loan asset class has generated lower returns than high yield over time but has tended to outperform during recessions. There has been no systematic tendency to outperform HY during periods of central bank tightening but we note a tendency to underperform HY when central banks ease.
Rarely extreme and rarely negative	Of note is the relative stability of returns, with bank loans rarely at either extreme of asset class rankings. Loans have generated negative total returns in the US in only three years since index inception in 1992 (in Europe there have been only four negative years since 1998).
Discount margin has been the best predictor of future returns	History suggests that when trying to predict future returns, the current yield on bank loans is of limited use. Comparing current yield to cash rates improves predictive power (especially for investment horizons up to three years) but the best predictor among those we tested was the discount margin (also a form of spread).
Current valuations point to "normal" returns	Current yields in the US and Europe are high, compared to their histories, but current yield spreads and discount margins are closer to historical norms. This suggests no particular valuation reason for expecting extreme returns over the next 12 months unless we fear deep recession. When comparing to HY, the yield comparison currently favours bank loans in the US, though HY tends to outperform when the Fed eases.
We doubt there will be deep recession	Though we worry that some parts of the global economy continue to slow, with the possibility of mild regional recessions, we do not expect a synchronised global recession. Hence, we believe that default rates (which have been low) will normalise but do not expect a sharp rise. We also expect recovery rates to be aligned with historical norms.
We project 7%-8% total returns over the next 12 months	On this basis, we forecast 12-month bank loan total returns in the US and Europe of 7.5% and 7.7%, respectively (as of 28 April 2023). This is higher than what we expect on cash. We believe this gives a cushion against the risk of recession. Even if default and recovery rates were to hit GFC style levels, the total returns would still be in the 2%-3% range, according to our calculations (though widening spreads would depress returns further). Even if deep recession penalised the bank loan asset class over the next year, history suggests that the deficit would be made up within a number of years.
The best environments are economic recovery and expansion	Our analysis suggests that the best environments for bank loans are the recovery after recession (when spreads are likely to be wide) and a prolonged economic upswing that brings rising central bank rates but low defaults.
We intend to incorporate bank loans into our framework by end-2023	Given its size and characteristics, we intend to incorporate the bank loan asset class within our Model Asset Allocation framework by the end of 2023. Though we cannot know what our allocation decision will be at the time, we anticipate it having a similar weighting to high yield credit within our Neutral benchmark (currently 5%). Given the return projections outlined above, we think it will be a valuable addition.

## Glossary of terms

**Bank loans:** Bank loans (also known as senior loans or senior secured loans) are loans issued by banks to institutions (banks and other entities) that are the most senior, secured debt and, as such, sit at the top of the borrower's capital structure. When banks want to reduce their exposure to loans, they can be sold. Loans are often combined, repackaged and sold to investors who receive interest payments and principal repayment in return. Most leveraged loan indices only include loans that are rated below investment grade (they are called leveraged loans due to their frequent use in the financing of leveraged buyouts).

**Benchmark rate:** the reference rate within bank loan contracts (usually LIBOR/SOFR or EURIBOR).

**Coupon rate:** benchmark rate plus the contractual spread (or margin).

**Current yield:** coupon rate divided by current price.

**Default and recovery rates:** the percentage of loans upon which there has been default in the previous 12 months (in this document, the percentage is based on the par value of loans) and the percentage of defaulted debt that is recovered by the investor.

**Discount margin:** IRR minus benchmark rate.

**Efficient frontier:** The efficient frontier is the set of optimal portfolios that offer the highest expected return for a defined level of risk or the lowest risk for a given level of expected return.

**EURIBOR:** Euro Interbank Offered Rate is based on the average interest rate at which a large panel of European banks borrow funds from one another. There are different maturities, ranging from one week to one year.

**LIBOR:** London Interbank Offered Rate is the average rate at which a panel of London banks say that they can borrow from each other in reasonable amounts. It is calculated daily on US dollars and a range of other currencies, across 15 terms (from overnight to one year). It is a measure of wholesale cash rates.

**Margin (spread):** the contractual loan interest rate margin added to the benchmark rate.

**SOFR:** Secured Overnight Financing Rate is a broad measure of the cost of borrowing cash overnight collateralised by US treasury securities. The SOFR is calculated as a volume-weighted median of transaction-level tri-party repo data. It includes all trades in the Broad General Collateral Rate plus bilateral Treasury repurchase agreement (repo) transactions cleared through the Delivery-versus-Payment (DVP) service offered by the Fixed Income Clearing Corporation (FICC). 3-month SOFR is a forward-looking interest rate provided by the CME (Chicago Mercantile Exchange), based on transaction data from quarterly futures (3-month CME SOFR futures) using volume weighted average price (VWAP) methodology. CME also provides 1-month, 6-month and 12-month SOFR tenors. SOFR has now replaced LIBOR as the standard USD benchmark rate in financial contracts.

**Swap rate:** the fixed rates available in swap markets at the required maturity.

**Yield (IRR):** internal rate of return obtained by equating cash flows (coupons plus redemption at par) to current price, with the coupon rate for an n-year life loan equal to the contractual spread (margin) plus the n-year swap rate.

**Yield to worst:** Yield to worst is a measure of the lowest possible yield that can be received on a bond with an early retirement provision. By definition, it will be less than yield to maturity if a bond is callable.

**Important information****Your capital is at risk. You may not get back the amount you invested.**

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