NAVigator Series

NAV Financing – Core Fund

A Hypothetical Performance Analysis

February 2024

Key Benefits of NAV Financing within a private credit portfolio

The emergence of NAV Financing as an alternative private credit instrument in recent years has been accompanied by an increased investor focus on the potential role this new class of instruments can play within a broader private credit portfolio context. There are several reasons why NAV Financing is an attractive opportunity for investors today, whether the key aim is to complement existing or facilitate new allocations to private credit portfolios.

These include, but are not limited to:

- **Significant loss insulation** in the deteriorating credit environment (principal purpose of this paper)
  - No first loss exposure (benefit of cross-collateralisation)
  - Exposure to the positive equity performance in individual collateral companies (offsetting other potential collateral portfolio losses)
- **Investment grade rating** (A-/BBB+ target)
- **Robust structural protections** (such as accelerated repayments and pricing ratchets) as risk exposure increases
- Rapidly attained and considerably **diversified middle market corporate exposure**
  - Large number of collateral companies, sectors, geographies and use cases
- Exposure to the **seasoned assets** (also covered in this paper)
  - Benefit of hindsight - a multi-year track record of the existing management
  - Possible reduced leverage
- Strong alignment with the experienced PE sponsors – clear use of proceeds as well as a repayment plan

Purpose of the Study and Modelling Assumptions

Investors often ask about the **resilience of NAV financing** and what it would take to **lose money in a NAV loan fund**.

The following analysis highlights the possible performance of a hypothetical NAV Core fund, during various credit environments, based on an underlying collateral pool of **B-rated** portfolio companies. (Note: the full study, available upon request, includes analysis of **BB-rated** collateral pool as well).

The analysis uses data from **Moody's Annual Default Study**, which includes the historical annual issuer-weighted corporate default rates between **1920-2022**. The default rates for B rated credits are in Figure 1.

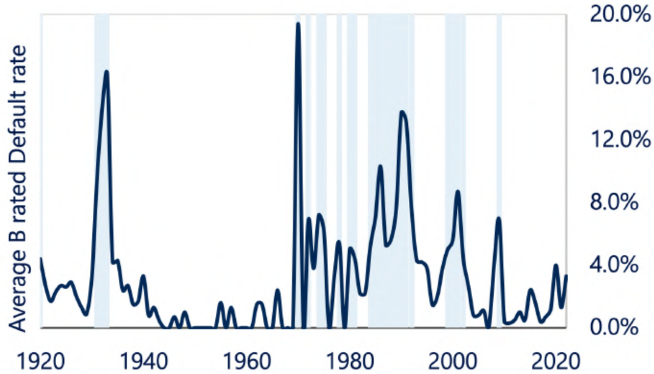

Figure 1: The annual default rate for B rated corporate loans between 1920 and 2023. Note: the Bottom Quartile years have been highlighted.

We assume the following fully ramped NAV Core fund:

- Fund of **15 equally-weighted NAV Core loan investments**.
- Each supported by a collateral of **10 equally-weighted B-rated portfolio companies** i.e. 150 equally-sized portfolio companies in the fund.
- Fund extends 4-year loans with **LTV of 10%**.

The Fund investment portfolio is then stress tested for:

- Various **default rate scenarios**, based on quartile stratification of the Moody's historical default rates, in the underlying collateral portfolio (with an assumed 0% recovery rate).
- Different **scenarios of distribution of these defaults** among collateral portfolios of the NAV loans:
  - The **Base Case** is the **Uniform distribution** which assumes that each NAV loan experiences the same, respective average, default rate in its collateral portfolio.
  - The **Worst-Case scenario** assumes that all fund collateral portfolio defaults are **concentrated in as few NAV loans as possible** *i.e. Max 10 defaults* per NAV loan collateral portfolio.

The nature of NAV Financing means it is used towards the **end of PE funds' re-investment period**. Thus, the underlying portfolio companies typically represent a more mature, seasoned credit risk. This paper analyses the positive impact this has on an expected loss.

The core focus of the paper is the **analysis of principal losses**, ignoring the offsetting impact of the **investment return from the performing assets** (EUR 7-9% gross). This impact is analysed further in the paper. We also assume no change in the NAV of the un-defaulted assets in the collateral pool. In practice, the NAV of some of these assets may fall if they are correlated or grow if they are uncorrelated and thus offset some or all of the collateral losses caused by the defaulted portfolio companies.

Key Findings: Expected NAV Fund Loss Results

			Benign Macro Environment			Challenging Macro Environment	
			Default Rate Scenarios of Portfolio Companies based on historical default rates of B rated companies over the past 102 years				
			Top Quartile	**Top Half**	**Average**	**Bottom Half**	**Bottom Quartile**
Good/ Average Manager	**Distribution of Portfolio Company Defaults Per Each NAV Loan**	**Uniform**	0%	0%	0%	0%	0%
		Max 5 defaults	0%	0%	0%	0%	0%
Poor Manager		**Max 6 Defaults**	0%	0%	0%	0%	0%
		Max 7 defaults	0%	0%	0%	0%	0%
		Max 8 defaults	0%	0%	0%	0%	0%
		Max 9 defaults	0%	0%	0%	0%	0%
		Max 10 defaults	0%	0%	7%	20%	27%

Figure 2: The resulting matrix for B rated loans in the respective macro and concentration scenarios.

The results for different diversification and macro environment quartile stratification are shown in Figure 2. For B rated collateral portfolios, a loss of principal in a NAV loan fund only occurs in the case where **defaults are concentrated** in as few NAV loans as possible i.e. a few NAV loans incur a loss of all 10 portfolio companies while most other loans will have none.

Based on the historical *Average, Bottom Half* and *Bottom Quartile* average default rates, out of a 150-name collateral pool one would expect to see **18, 31 and 43 defaults**, respectively.

The only way to incur principal losses in a NAV fund, with these default rates, would be to have these defaults occurring in the fewest possible NAV loans e.g. in the case of the *Bottom Quartile* credit environment **4 NAV loans suffer 40 defaults (100% of their collateral portfolio) and the remaining 11 loans only experience 3 defaults in total (<3% default rate)** – please see illustration in Figure 3. This is unlikely to happen in well-diversified collateral portfolios where the losses are expected to be more evenly spread across the collateral portfolio (as in the Uniform case).

Impact of the asset returns: Even in the scenario of *Max 10 defaults* per investment, coupled with Bottom Quartile default environment (Figure 3), the interest gained from the remaining performing assets in the NAV Fund portfolio is expected to fully offset the principal loss from the defaulted assets (please see a Case Study below)

If the NAV loan fund manager can i) construct a **diversified portfolio of borrowers**, ii) identify PE borrowers with **diversified collateral portfolios** and iii) maintain collateral diversity throughout facility life **via risk-adverse cash sweeps**, such expected principal losses could be **largely avoidable**.

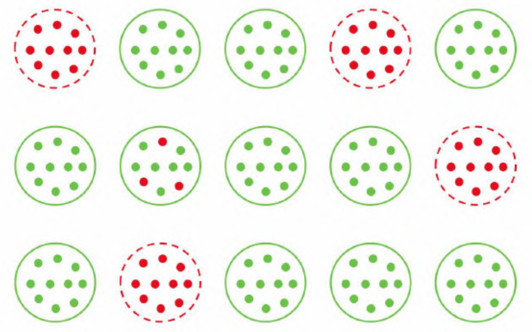

Figure 3: Graphic visualisation of Max 10 Defaults coupled with Bottom Quartile default rates. Each circle is a NAV loan and the dots represent the portfolio companies. The defaults are 100% concentrated in as few loan portfolios as possible in this extreme case.

Key Findings: Impact of Seasoning

NAV Financing is used towards the **end of PE funds' re-investment period** thus the underlying portfolio companies typically represent a more mature, seasoned, credit risk.

As shown by data from Fitch (Figure 4), the credit default rate decreases as the **time from issue/borrow date** increases. This seasoning effect is most profound during the first 5 years from issue date. We have used the ratio of the cumulative probability of defaults between the first 5 years (typical re-investment period for a PE buyout fund) and the next 5 years (period during which a NAV financing is most likely to be used) to reduce the default rates used above to exhibit a possible effect of seasoning of the collateral assets NAV Financing lends against on the expected NAV fund losses.

The data from Fitch gave 3 different 'seasoning effect' discounts of 10%, 20% and 35% for B+, B and B- rated assets, respectively

Taking each of these and applying them to the **worst case** scenario of *Max 10 defaults* we see that the impact of seasoning can **decrease expected principal loss of NAV fund by over 50%**, shown in Figure 5.

The seasoning effect is greatest in the **most extreme credit environments**.

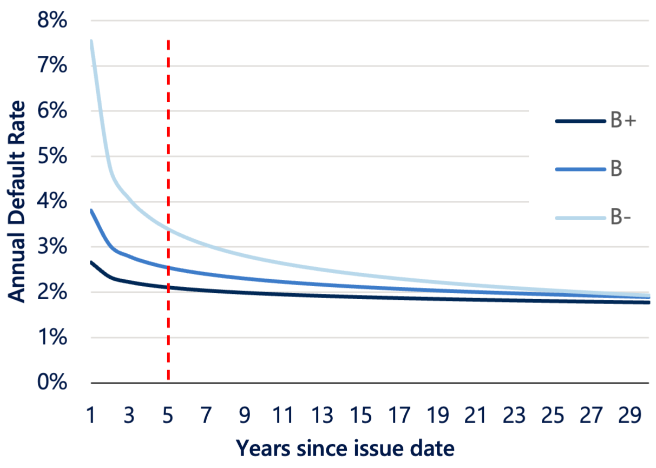

Figure 4: A graph showing the impact of seasoning for the spectrum of B rated corporate credits.

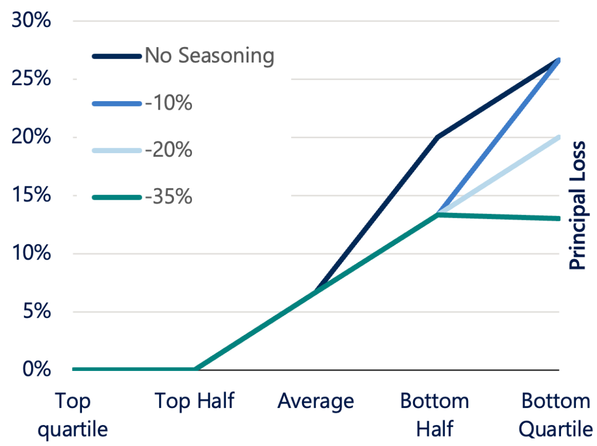

Figure 5: A graph showing the effect of seasoning on the Max 10 defaults concentration stress.

Case Study: GFC Principal Loss Scenario and Impact of Asset Returns

The above loss analysis looked at the impact of collateral defaults on the NAV fund principal losses, ignoring the returns generated by the remaining performing assets.

The following scenario analysis looks at the worst 4 years of the Global Financial Crisis in terms of default rates, between 2008-2011, and the corresponding incremental impact of the hypothetical investment returns of the performing investments on the overall loss of the NAV fund.

It considers different levels of the target returns (EUR gross 7-9%) and assumes that all investments pay PIK (payment-in-kind) interest. The data was compared to the risk-free rate ("RFR"), 4-year EUR swap rate of 2.50%.

The return analysis was carried out for the GFC case using B rated loans, with an LTV of 10%. The graph below shows the results with *Max 10 defaults* per each Fund investment.

Even in the lower end of the Funds target returns, the gross return earned from the performing assets has not only offset all principal losses but also outperformed the risk-free return.

In this scenario, 7% of principal is lost in year 2. This equates to a loss of one year's worth of gross interest (at 7%, bottom end of the Funds target returns).

In summary, the above graph confirms the core thesis that **NAV asset class is resilient during market stress periods** and an informed, conservative investment selection process can facilitate avoidance of principal losses and outperformance versus the risk-free rate.

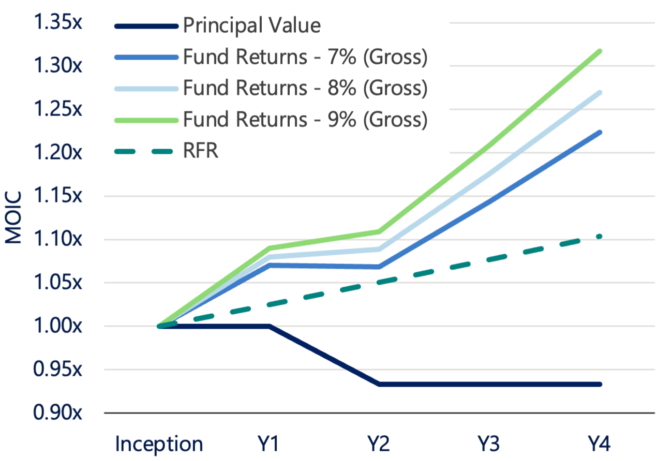

Figure 6: A graph showing the principal and Fund value of returns, for different target Fund return rates, along with the value of returns for the RFR, for a NAV Fund with 10% LTV, max 10 defaults per Fund investment that is subject to the B rated default rates of the GFC.

Conclusion

The **composition of the collateral portfolio of NAV investments and the macro credit environment** can have an impact on the investment performance. Whilst the macro environment is difficult to predict and control, it is Pemberton's view that this **risk can be largely mitigated through a careful selection of Fund investments**. The key focus of the NAV fund manager is to identify PE borrowers with high quality, large, diverse collateral portfolios where the risk of default is spread uniformly across the collateral portfolio and not highly correlated.

At the fund portfolio level, it is equally important to diversify the investments such that NAV loan exposures across the fund portfolio are not highly concentrated. It is under these conditions that the analysis in this paper shows, with solid evidence, that the NAV financing fund shall either avoid loss of principal entirely or if it does incur a principal loss, it shall be largely offset by the returns on the surviving fund assets.

For a deeper dive into the topic the full paper is available upon request.

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