remaco

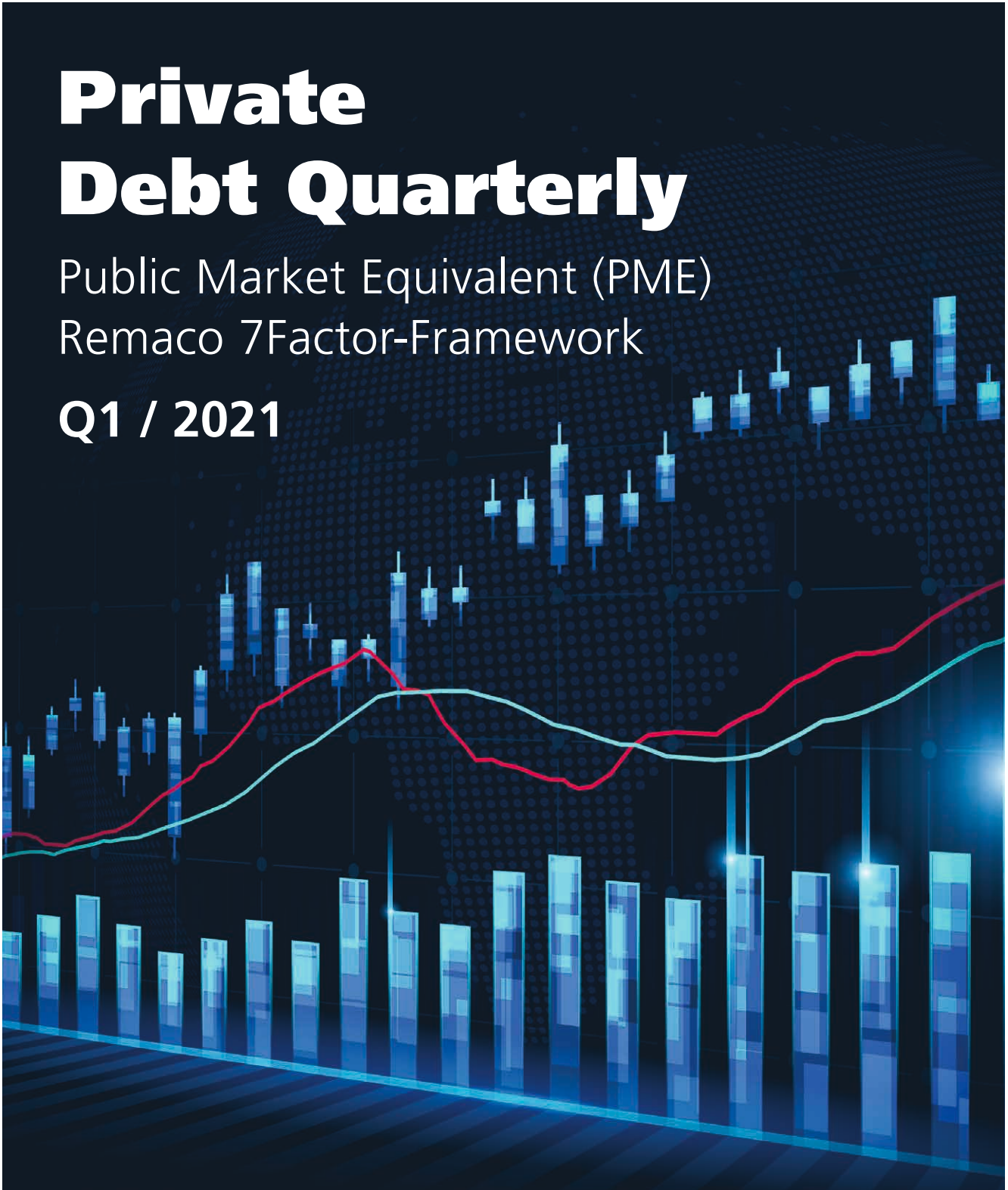*The art of capital management, since 1947.*

Private Debt Quarterly

Public Market Equivalent (PME)
Remaco 7Factor-Framework

Q1 / 2021

Remaco · Q1 2021
Private Debt Quarterly

Prof. Pascal Böni, PhD
Prof. Dr. Heinz Zimmermann

remaco

The art of capital management, since 1947.

Private Debt Quarterly

Public Market Equivalent (PME)
Remaco 7Factor-Framework

Q1 / 2021

Content

Tables

Fund Performance

General Partners

Funds

Funds Currently Raising

Funds by Investment Strategy

Investors

Entire Lists

Dear investor,

In our last **Private Debt Quarterly 4 / 2020**, we reported on the continuous growth of private debt as an alternative asset class, the risk and return of private debt funds by investment strategy as proxied by IRR (direct lending, mezzanine, distressed debt and special situations) and presented our fund ranking – from 5***** to 1* - evidencing the performance and risk effects resulting from active selection. The latter leads to increasing average performance of approximately 14% for direct lending and mezzanine funds and more than 15% for special situations and distressed debt funds, whilst reducing risk substantially. We also provided our long list of funds defining our PD fund universe.

In this **Private Debt Quarterly 1 / 2021**, we present our **Remaco 7Factor-Framework**, which we operate based on our PD fund quarterly return data base. This allows us to analyze PD fund investments at the asset class level as a whole, but also by investment strategy or at the single fund or GP level. Moreover, it allows us to analyze **market out- or underperformance of PD funds**. While we have a variety of performance measures at hand, we shall **focus on the public market equivalent (PME) in this quarterly report**.

Remaco 7Factor-Framework to analyze PD fund performance
Figure 1 shows quarterly returns to PD funds, as compared to the investment grade (IG) and high yield (HY) bond market. We use timed cash flows of approximately 500 private debt funds and compute mean quarterly returns from 1992 through 2020, where the quarterly return (R_t) equals $NAV_t + CF_t / NAV_{t-1} - 1$, and where NAV is the quarterly reported net asset value of a fund, CF is the net quarterly cash flow of a fund at quarter t, the latter consisting of contributions from and distributions to limited partners (LPs), and NAV_{t-1} is the NAV of the preceding quarter.

Figure 1. Private Debt Fund Quarterly Returns versus IG- and HY-Benchmarks 1992 through 2021, cut-off March 31, 2021
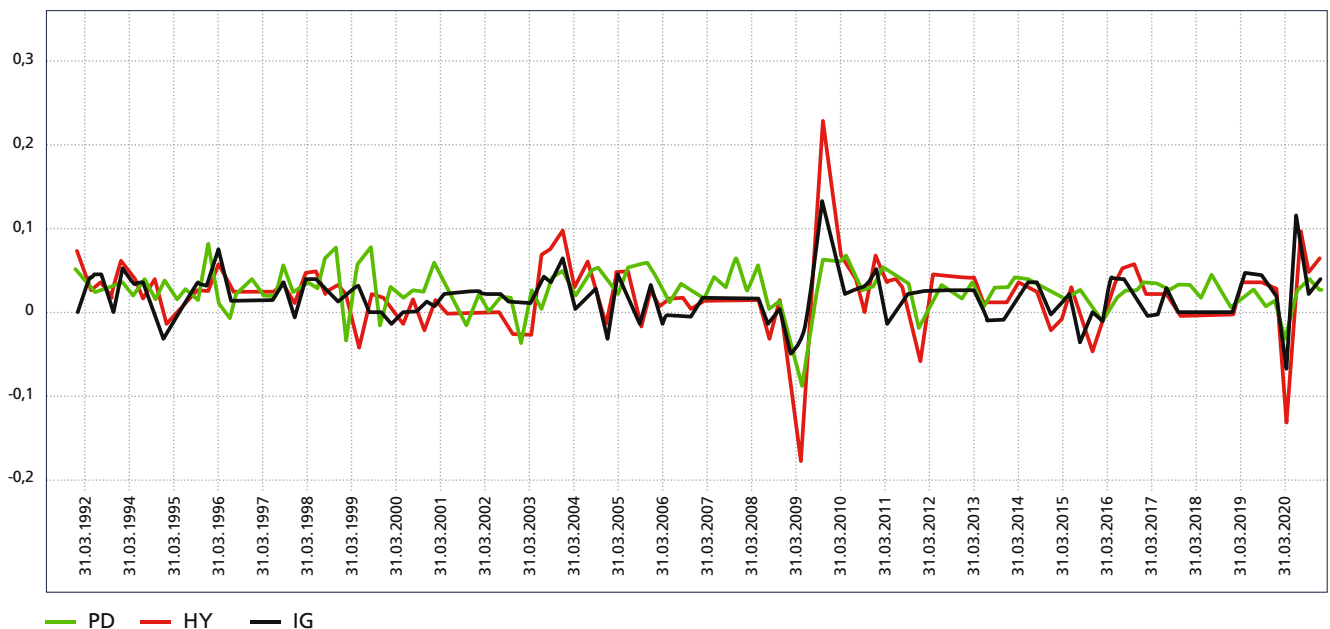
Figure 1: Source: Remaco Research. Private debt fund quarterly returns versus IG- as well as HY-bond benchmarks. The quarterly return (R_t) equals $NAV_t + CF_t / NAV_{t-1} - 1$, and where NAV is the quarterly reported net asset value of a fund, CF is the net quarterly cash flow of a fund at quarter t, the latter consisting of contributions from and distributions to limited partners (LPs), and NAV_{t-1} is the NAV of the preceding quarter. The IG bond market benchmark proxied by the quarterly returns of the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB-1TRUU). The HY bond market benchmark proxied by the quarterly returns of the Bloomberg Barclays High Yield Index (LF98TRUU).

As can be seen from a simple visual inspection of the three return series in **Figure 1**, PD fund's quarterly returns (green line) appear to be marked to market, and in a timely manner. The GFC downturn as well as the COVID-19 crisis are well reflected in PD fund quarterly returns. The flight-to-quality observed during the subprime crisis and the COVID-19 market downturn affects PD fund returns less than IG bonds: PD fund valuations rebound less than those of IG bonds. Overall, PD fund quarterly returns are less volatile than the IG- and HY-benchmark returns.[1] Using quarterly returns, we are able to support our client's needs for accurate quantitative PD fund data. All analyses can be custom designed at the fund, the PD strategy and the overall asset class level.

We use seven factors that we consider important when evaluating GPs and selecting PD funds for investment. These factors are summarized in our **Remaco 7Factor-Framework**.

Remaco 7Factor-Framework

···

Remaco 7Factor-Framework

The **Remaco 7Factor-Framework** provides our clients with the opportunity to make informed PD asset manager (GP) selection decisions. We help our clients to successfully invest in private debt funds using our 7F-Framework, which provides quantitative decision support data based on the analysis of (1) IRR, (2) PME, (3) alpha, (4) VaR & ES, (5) active risk, (6) Covariance and (7) ESG risk.

1 **Internal Rate of Return (IRR)** We verify fund IRRs on a quarterly basis as this measure is widely used by practitioners. The input to our calculation is cash flow data representing investments from LPs (contributions) and paybacks to LPs (distributions). For funds that are not liquidated, we treat the last net asset value (NAV) as market value. IRR is an **absolute measure of performance**, not allowing to benchmark market performance.

2 **Public Market Equivalent (PME)** We calculate PME based on Kaplan and Schoar (2005), used as the state-of-the-art measure of fund level performance and viewed as a market-adjusted multiple of invested capital. This widely accepted **relative measure of performance** adjusts for the market return or the risk spanned by the benchmark index (assuming β = 1). We use timed cash flows over the lifetime of a fund to provide PME analysis.

3 **PD fund alpha (α)** We identify market risk (β), using the capital asset pricing (CAPM) framework. We approximate the return on the market portfolio using various indices (two for bond markets (IG and HY) and one for the equity market, i.e. the S&P500) and estimate the intercept of OLS regressions, returning **alpha (α) or risk-adjusted performance.** By calculating fund α, we allow β to be larger or smaller than 1, substantially enlarging our understanding of PD fund returns and responding to the systematic limitation given by the "fixed- β- approach" in the PME- calculation.

4 **Downside risk analysis (VaR, ES and MaxDD)** We provide additional insights related to the downside risk, one of the most important features to analyze investment risk and asset pricing. We use a value at risk (VaR)-, expected shortfall (ES)- and maximum drawdown (MaxDD) - analysis to proxy for PD fund risk, employing quarterly PD fund returns. This allows investors to be better informed about the downside risk of PD fund assets, for example during downmarkets and in view of potential secondary market transactions.

5 **Tracking error (active risk)** PD funds are often seen as fixed income replacement. When a fixed income portfolio manager's benchmark is a bond market index, risk is frequently not measured in terms of variance or standard deviation of portfolio returns, but rather by the standard deviation of the return of a portfolio relative to the return of the benchmark index. Our data provides valuable information on this measure, allowing to monitor tracking error or **active risk.**

6 **Covariance (Cov)** We use quarterly mean (expected) returns, their variance and covariance, to construct an efficient portfolio and assess a PD fund **portfolio's effective risk** in a Markowitz sense, both at the fund level or PD fund strategy level. This significantly improves the investors risk assessment when PD fund assets are combined to create a portfolio. Risk is measured in terms of portfolio variance, which in turn depends on the covariance of the returns between each pair of PD funds comprising the portfolio.

7 **ESG Risk Analysis** We analyze ESG transparency both at the GP and PD fund level and assess ESG materiality at the portfolio level based on Sustainability Accounting Standards Board (SASB) risk measures. If requested, we check on a variety of complementary ESG frameworks, such as for example the Principles for Responsible Investment (PRI) when analyzing funds for investment.

Our **7Factor-Framework** allows us to create transparency, not only for the overall asset class or its most important sub-strategies, but also at the fund and GP level. Our framework can be used to determine a reasonable PD fund investment strategy from different angles: an investor that aims to minimize risk shall start to select funds by one or a combination of our risk statistics (VaR, ES, MaxDD, active risk), thereafter adding additional selection criteria. An investor following an efficient portfolio approach shall start the selection process from expected returns, standard deviation and the degree of correlation between each pair of PD funds and simulate a portfolio including combinations of PD funds, and only threafter employ additional selection criteria. A sustainability-focused investor shall primarily focus on ESG metrics and subordinate various other selection criteria etc. **Our 7Factor-Framework allows for an individualized selection and portfolio construction approaches and provides key metrics in various important dimensions.**
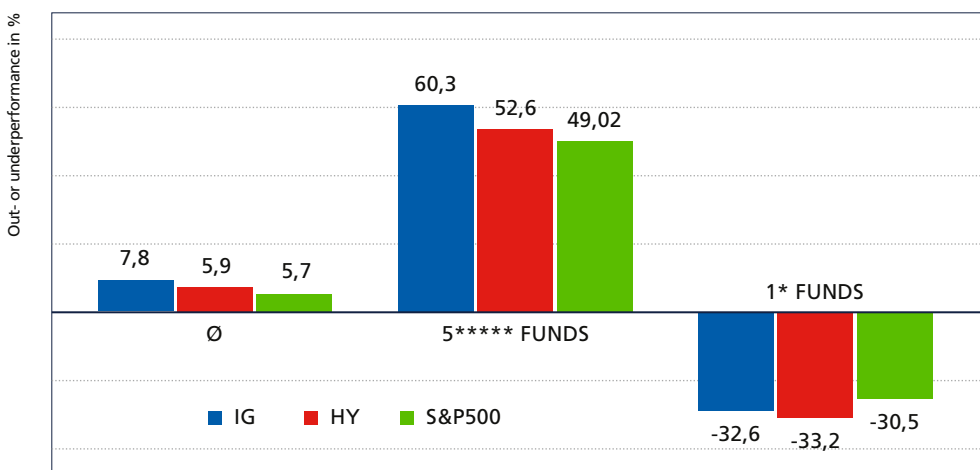
Public Market Equivalent (PME)
As we noted in our last report, IRR is an absolute performance measure, not taking into account any systematic risk factors when assessing fund and manager performance. We therefore introduce a relative performance measure in our Q1/2021 report: the public market equivalent (PME) and use timed cash flows to calculate this measure introduced by Kaplan and Schoar (2005),[2] which is nowadays used as the state of the art measure of fund-level performance. PME can be viewed as a market-adjusted cash on cash multiple, all cash flows discounted by a discount factor determined by the market or benchmark index. It adjusts for the market return or the risk of the investment spanned by the benchmark indices that we use.

PD Funds Outperform Investment Grade, High Yield and Stock Market Benchmarks
In **Figure 2** we use the previously mentioned benchmark indices and add the S&P500 index as an additional benchmark. PD funds outperform all three indices: the IG benchmark by 7.8%, the HY benchmark by 5.9% and the stock market benchmark by 5.7%, as measured by their cross-sectional PME. However, there is important dispersion between top and bottom ranked funds, as defined by our PD fund ranking.

Benchmark Outperformance in %
Public Market Equivalent (PME) of avarage, 5***** and 1*PD Funds

Figure 2: Source: Remaco Research. Private debt fund public market equivalent (PME) using IG-, HY-bond and stock market benchmarks. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU). The stock market benchmark is proxied by the S&P500 index. 5***** and 1* fund categories. Each private debt fund PME is ranked against the complete fund universe, i.e. against each other. The top 10% of private debt funds are assigned five stars. The subsequent 22.5%, 35%, 22.5%, and 10% of funds are assigned four, three, two and one stars, respectively. Calculations based on a sample of 470 PD funds with vintages 1988 through 2018, excluding funds with vintages 2019 and 2020 that did not yet have a chance to demonstrate reliable return data. Cash flows cut-off March 31, 2021.

Figure 2 shows the performance difference for our 5***** as opposed to 1* funds, using the PME. There is very large dispersion between top performing and low performing PD funds. While the top performing 5***** funds outperform the market by some 49% to 60% over their lifetime, low performing funds underperform the market substantially and by approximately 30% over their lifetime. We believe this analysis indicates that active selection may deliver substantial value added to investors.

It must be noted that our standard PME calculation as in Kaplan and Schoar (2005) assumes a market beta of one ($\beta = 1$). This may lead to overstating (understating) market out- or underperformance for PD funds with a beta larger (smaller) than one. We therefore recommend to use additional metrics when assessing PD fund performance and shall report on additional criteria to assess performance in future quarterly reports.

We hope this report finds your appreciation and remain open for any questions you might have. Do not hesitate to contact us directly and engage in a personal or digital meeting to discuss topics related to PD fund selection.

Sincerely yours,

Prof. Pascal Böni, PhD
Remaco CEO and Tilburg School of Ecomomics
and Management, Tilburg Institute for Private
Debt, Tilburg University, The Netherlands

Prof. Dr. Heinz Zimmermann
Remaco Board of Directors, Department of Business
and Economics, University of Basel, Switzerland

Disclaimer

[1]   Evaluating the last 118 quarters of mean PD fund returns, their standard deviation amounts to 2.6%, compared to 2.8% for the IG- and 4.6% for the HY-benchmark.
[2]   See Kaplan, S. N., & Schoar, A. (2005). Private equity performance: Returns, persistence, and capital flows. Journal of Finance, 60(4), 1791–1824.

1.1 Private Debt Fund Performance

In our first analysis, we focus on relative attractiveness of PD fund returns by the introduction of our Remaco PD fund ranking based on the public market equivalent (PME), as first introduced by Kaplan and Schoar (2005). PD funds are ranked against all funds in the PD fund universe using the PME. Our ranking provides interesting descriptive information on PD fund returns and the return dispersion between ranking categories. We apply our ranking to the cross-section of all PD funds (Table 1) and provide a more granular analysis, aggregating the PME at the investment strategy level (direct lending, mezzanine, spe-

cial situations, distressed debt and venture debt) in the following tables.

We assign five stars to the top 10% of PD funds. The subsequent 22.5%, 35%, 22.5% and 10% of funds are assigned four, three, two, and one stars respectively. To the best of our knowledge, this is the first analysis to rank PD funds based on a comprehensive cross-sectional analysis covering the global universe of PD funds for a long time-period, hence from the very first PD fund vintages in 1988 until recently. We start our analysis at the fund level, the results are presented below.

Table 1: Remaco Private Debt Fund Ranking based on PME

This table shows a Remaco analysis based on 470 PD funds, timed cash flows and their public market equivalent (PME) as per March 31, 2021, using an investment grade (IG) benchmark and a high yield (HY) benchmark. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU). Rankings are assigned based on the latest available data from Preqin and other sources deemed reliable, including vintages 1986 through 2018. We exclude funds with a lifetime lower than two years in order to exclude exotic funds or returns created in the early inception phase of a PD fund. We thus consider funds having a reasonable lifetime to demonstrate performance. Each private debt fund PME is ranked against the complete fund universe, i.e. against each other. The top 10% of private debt funds are assigned five stars. The subsequent 22.5%, 35%, 22.5%, and 10% of funds are assigned four, three, two and one stars, respectively. The lifetime IRR adhering to this performance category is added for additional information purposes but is not relevant with respect to fund ranking. Instead of displaying the PME factor (which indicates an outperformance if the PME exceeds the value of 1 and an underperformance for values below 1), we show a fund's out- or underperformance in percent. For example, a PME of 1.5 indicates a benchmark outperformance of (1.5 – 1) or 50%.

Fund Ranking	(I) PME IG	(II) PME HY	(III) IRR	(IV) N
5***** Fund Mean (Median)	60.35% (50.38%)	53.74% (42.84%)	28.48% (23.19%)	51
4**** Fund Mean (Median)	19.16% (17.02%)	16.90% (15.33)	13.50% (11.73%)	104
3*** Fund Mean (Median)	4.89% (4.67%)	5.51% (4.71%)	10.13% (8.60%)	164
2** Fund Mean (Median)	-7.50% (-6.99%)	-6.28% (-6.56%)	2.87% (3.90%)	108
1* Fund Mean (Median)	-32.62% (-29.44%)	-33.22% (-29.09)	-10.28% (-3.70%)	43

Table 1 shows the mean (median) PME using the IG benchmark in column (I) and using the HY benchmark in column II. IRRs are shown in column (III). Funds in the 5***** (4****) ranking category generate a substantial market outperformance in the

amount of 60.35% (19.16%) against the IG benchmark and an outperformance only slightly lower in the amount of 53.74% (16.90%) against the HY benchmark. Expressed as IRR, their performance is 28.48% (13.50%).

The return dispersion between 5***** and 1* funds is substantial. While an investor in 5***** funds outperforms the market significantly, the investor in the least performing 1* category experiences a loss over the lifetime of the fund and measured against the market in the amount of approximately 33%. Expressed as IRR, the performance of funds in the 5***** category generates 28.48% compared to a negative -10.28% in the 1* category.

In our next analysis we have a closer look at PD investment strategies, their cross-sectional performance as well as their performance in two time periods, that prior to fund vintage 2015 and that of the year 2015 and beyond. We analyze four strategies: (I) direct lending, (II) distressed debt, (III) mezzanine and (IV) special situations, and calculate the public market equivalent (PME) for each fund in our database: This allows us to evaluate the relative performance of PD funds against two benchmarks (I) an investment grade benchmark and (II) a high yield benchmark. As many investors rely on IRRs, we also provide information in respect to this absolute performance measure.

Table 2: Private Debt Fund Performance By Investment Strategy

This table shows a Remaco analysis based on 470 PD funds, timed cash flows and fund public market equivalents (PME) as well as their internal rate of return (IRR) as per March 31, 2021. We use an investment grade (IG) benchmark and a high yield (HY) benchmark to calculate the PME. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU). Rankings are assigned based on the latest available data from Preqin and other sources deemed reliable, including vintages 1986 through 2018. We exclude funds with a lifetime lower than two years and thus consider funds having a reasonable lifetime to demonstrate performance. The PME factor indicates an outperformance if it exceeds the value of 1 and an underperformance for values below 1. For example, a PME of 1.5 indicates a benchmark outperformance of (1.5 – 1) or 50%.

BY INVESTMENT STRATEGY PUBLIC MARKET EQUIVALENT (PME) & INTERNAL RATE OF RETURN (IRR)	(I) All funds	(II) Vintage prior to 2015	(III) Vintage equal to or after 2015
DIRECT LENDING			
Ø PME IG	**1.04**	**1.07**	**1.03**
Ø PME HY	1.5	1.04	1.05
Ø IRR %	8.79	7.15	9.50
DISTRESSED DEBT			
Ø PME IG	**1.09**	**1.13**	**0.99**
Ø PME HY	1.05	1.07	1.01
Ø IRR %	8.83	10.76	3.52
MEZZANINE DEBT			
Ø PME IG	**1.09**	**1.12**	**0.99**
Ø PME HY	1.07	1.08	1.03
Ø IRR %	9.05	9.07	8.97
SPECIAL SITUATIONS			
Ø PME IG	**1.09**	**1.13**	**1.04**
Ø PME HY	1.09	1.09	1.08
Ø IRR %	12.43	10.39	14.53

The analysis in **Table 2** and specifically the use of the PME as performance measure allows a more accurate interpretation of performance than merely looking at IRR. For example, the average IRR of funds following the direct lending strategy increased from 7.15% to 9.50% over the two time windows observed, suggesting that this strategy is increasingly attractive. However, the introduction of a relative benchmark, here PME, reveals

that the market outperformance has declined from 7% to 3% when using the IG benchmark and increased slightly from 4% to 5% when using the HY benchmark. Whilst an IRR of 9.5% may appear highly attractive at first sight, the investor must decide whether a 3% to 5% market outperformance is sufficient to compensate for illiquidity over a longer time-period. The answer to this question may be different from investor to

investor. However, it appears advisable to divert from a narrow focus on IRR to a more in-depth analysis considering market performance and use PME as an additional measure to assess PD fund strategies.

When looking at IRR alone (9.50%, 8.97% and 14.53%), PD funds following the direct lending, the mezzanine debt or the specials situations strategy look highly attractive. However, their market outperformance when using the IG (HY) benchmark is significantly lower and amounts to 3% (5%), -1% (3%) and 4% (8%).

We are of the opinion that there is ample room for active manager selection and our database offers a good basis to do this. Given the very high dispersion between high performing funds (see Table 1, 5***** and 4**** funds) and low performing funds shown in **Table 1** (1* and 2** funds), we recommend that investors follow a sophisticated manager selection process that takes some of the factors proposed in our Remaco 7Factor-Framework into account.

1.2 Private Debt Fund Investment Strategies and Performance

In the next section, we analyze the performance of 470 PD funds across different strategies (direct lending, distressed debt, mezzanine, special situations and venture debt) and consider the vintage years as above. Additionally, we make a distinction between two time periods, that is the cross-section of all funds and PD fund performance for the period before 2015 and that including and after 2015.

Institutional investors identify skewness and downside risk as one of the most important features of risk. We therefore also provide information on the distribution of IRRs, indicating the results at the left and right extremes of the distribution. Using our tables, investors may easily gauge for value-at-risk (VaR) and expected shortfall (ES) of a diversified PD fund portfolio and under the assumption that closed end PD fund assets are held until their liquidation that is for a long-term period. The results by investment strategy are shown below.

Table 3: Fund Performance by Investment Strategy: Direct Lending

This table shows the result of a Remaco analysis based on 470 PD funds and their public market equivalent (PME) as well as their lifetime IRR as per March 31, 2021, and for the **direct lending investment strategy** (n = 113). We use an investment grade (IG) benchmark and a high yield (HY) benchmark to calculate the PME. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU).We show the cross-sectional PME for all funds of this investment strategy in column (I), that for funds with vintage years prior to 2015 in column (II) and the PME for funds launched in 2015 and later in column (III). We exclude funds with a lifetime lower than two years and thus consider funds having a reasonable lifetime to demonstrate performance. Fund performance is shown at the 1st, the 5th, the 10th as well as the 90th, the 95th and 99th percentile.

Direct Lending Public Market Equivalent PME	(I) All funds	(II) Funds with vintage prior to 2015	(III) Funds with vintage equal to or after 2015
Ø PME IG	1.04	1.07	1.03
Ø PME HY	1.05	1.04	1.05
Ø IRR %	8.79	7.15	9.50
1st percentile IG	0.73	0.63	0.79
1st percentile HY	0.73	0.64	0.82
5th percentile IG	0.86	0.73	0.87
5th percentile HY	0.88	0.73	0.91
10th percentile IG	0.92	0.86	0.92
10th percentile HY	0.92	0.82	0.93
90th percentile IG	1.17	1.23	1.14
90th percentile HY	1.15	1.21	1.14
95th percentile IG	1.23	1.27	1.18
95th percentile HY	1.21	1.22	1.20
99th percentile IG	1.31	1.31	1.76
99th percentile HY	1.32	1.23	1.74
Observations	113	34	79

Direct lending strategies include the practice of PD funds extending loans to small and medium-sized businesses, in general, in return for debt securities.

We find a **mean outperformance** of this strategy against the IG benchmark in the amount of 4% for the cross-section of direct lending funds by our sample. The mean outperformance against the HY benchmark amounts to 5%. The mean outperformance for funds launched in 2015 or later and against the IG benchmark, shows a decrease in the PME, which is reduced to 1.03, as opposed to that of funds launched prior to 2015, this average effect presumably due to the sharp increase in IG benchmark performance in the aftermath of the COVID-19 crisis. Contrary to this, the mean outperformance against the HY benchmark and for the two periods increases from 4% (PME 1.04) to 5% (PME 1.05).

Fund PMEs at the **90th percentile** outperform the market by a substantial 17% (15%) against the IG (HY) benchmark on average and by 23% (21%) / 14% (14%) for vintages prior to 2015 / vintages thereafter.

Fund PMEs at the **10th percentile** underperform the market by 8% (8%) against the IG (HY) benchmark on average and by 14% (18%) / 8% (7%) for vintages prior to 2015 / thereafter.

Table 4: Fund Performance by Investment Strategy: Distressed Debt

This table shows the result of a Remaco analysis based on 470 PD funds and their public market equivalent (PME) as well as their lifetime IRR as per March 31, 2021, and for the **distressed debt investment strategy** (n = 143). We use an investment grade (IG) benchmark and a high yield (HY) benchmark to calculate the PME. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU). We show the cross-sectional PME for all funds of this investment strategy in column (I), that for funds with vintage years prior to 2015 in column (II) and the PME for funds launched in 2015 and later in column (III). We exclude funds with a lifetime lower than two years and thus consider funds having a reasonable lifetime to demonstrate performance. Fund performance is shown at the 1st, the 5th, the 10th as well as the 90th, the 95th and 99th percentile.

Distressed Debt Public Market Equivalent PME	(I) All funds	(II) Funds with vintage prior to 2015	(III) Funds with vintage equal to or after 2015
Ø PME IG	1.09	1.13	0.99
Ø PME HY	1.05	1.07	1.01
Ø IRR %	8.83	10.76	3.52
1st percentile IG	0.52	0.52	0.64
1st percentile HY	0.50	0.50	0.66
5th percentile IG	0.77	0.77	0.68
5th percentile HY	0.74	0.74	0.72
10th percentile IG	0.83	0.83	0.83
10th percentile HY	0.79	0.79	0.83
90th percentile IG	1.38	1.49	1.13
90th percentile HY	1.30	1.39	1.15
95th percentile IG	1.53	1.80	1.27
95th percentile HY	1.54	1.63	1.18
99th percentile IG	2.20	2.20	1.29
99th percentile HY	1.94	1.94	1.30
Observations	143	105	38

Distressed debt funds provide capital to companies that have filed for bankruptcy or have a significant chance of filing for bankruptcy in the near future.

We find a **mean outperformance** of this strategy against the IG benchmark in the amount of 9% for the cross-section of direct lending funds by our sample. The mean outperformance against the HY benchmark amounts to 5%. The mean outperformance for funds launched in 2015 or later and against the IG benchmark, shows a decrease in the PME to 0.99, as opposed to that of funds launched prior to 2015 (PME = 1.13), mirroring the likewise lower IRR, which decreased from 10.76% to 3.52% over the same period. The mean outperformance against the HY benchmark and for the two periods decreases from 7% (PME 1.07) to 1% (PME 1.01).

Fund PMEs at the **90th percentile** outperform the market by a substantial 38% (30%) against the IG (HY) benchmark on average and by 49% (39%) / 13% (15%) for vintages prior to 2015 / vintages thereafter.

Fund PMEs at the **10th percentile** underperform the market by 17% (21%) against the IG (HY) benchmark on average and by 17% (21%) / 17% (17%) for vintages prior to 2015 / thereafter.

Table 5: Fund Performance by Investment Strategy: Mezzanine

This table shows the result of a Remaco analysis based on 470 PD funds and their public market equivalent (PME) as well as their lifetime IRR as per March 31, 2021, and for the **mezzanine investment strategy** (n = 137). We use an investment grade (IG) benchmark and a high yield (HY) benchmark to calculate the PME. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU).We show the cross-sectional PME for all funds of this investment strategy in column (I), that for funds with vintage years prior to 2015 in column (II) and the PME for funds launched in 2015 and later in column (III). We exclude funds with a lifetime lower than two years and thus consider funds having a reasonable lifetime to demonstrate performance. We thus consider funds demonstrating reasonable lifetime performance. Fund performance is shown at the 1st, the 5th, the 10th as well as the 90th , the 95th and 99th percentile.

Mezzanine Public Market Equivalent PME	(I) All funds	(II) Funds with vintage prior to 2015	(III) Funds with vintage equal to or after 2015
Ø PME IG	1.09	1.12	0.99
Ø PME HY	1.07	1.08	1.03
Ø IRR %	9.05	9.07	8.97
1st percentile IG	0.31	0.31	0.50
1st percentile HY	0.31	0.31	0.50
5th percentile IG	0.65	0.66	0.57
5th percentile HY	0.63	0.65	0.63
10th percentile IG	0.73	0.73	0.86
10th percentile HY	0.75	0.75	0.80
90th percentile IG	1.38	1.44	1.15
90th percentile HY	1.32	1.39	1.16
95th percentile IG	1.60	1.67	1.22
95th percentile HY	1.53	1.53	1.25
99th percentile IG	2.04	2.04	1.35
99th percentile HY	2.03	2.03	1.29
Observations	137	102	35

Mezzanine debt funds make investments in debt subordinate to the primary debt issuances and senior to equity positions.

We find a **mean outperformance** of this strategy against the IG benchmark in the amount of 9% for the cross-section of direct lending funds by our sample. The mean outperformance against the HY benchmark amounts to 7%. The mean outperformance for funds launched in 2015 or later and against the IG benchmark, shows a decrease in the PME to 0.99 as opposed to that of funds launched prior to 2015 with a PME of 1.12. Likewise, the mean outperformance against the HY benchmark and for the two periods decreases from 8% (PME 1.08) to 3% (PME 1.03).

Fund PMEs at the **90th percentile** outperform the market by a substantial 38% (32%) against the IG (HY) benchmark on average and by 44% (39%) / 15% (16%) for vintages prior to 2015 / vintages thereafter.

Fund PMEs at the **10th percentile** underperform the market by 27% (25%) against the IG (HY) benchmark on average and by 17% (25%) / 14% (20%) for vintages prior to 2015 / thereafter.

Table 6: Fund Performance by Investment Strategy: Special Situations

This table shows the result of a Remaco analysis based on 470 PD funds and their public market equivalent (PME) as well as their lifetime IRR as per March 31, 2021, and for the **special situations investment strategy** (n = 61). We use an investment grade (IG) benchmark and a high yield (HY) benchmark to calculate the PME. The IG bond market benchmark is proxied by the Bloomberg Barclays US Corporate Bond Total Return Index Baa (LCB1TRUU). The HY bond market benchmark is proxied by the Bloomberg Barclays High Yield Index (LF98TRUU). We show the cross-sectional PME for all funds of this investment strategy in column (I), that for funds with vintage years prior to 2015 in column (II) and the PME for funds launched in 2015 and later in column (III). We exclude funds with a lifetime lower than two years and thus consider funds having a reasonable lifetime to demonstrate performance. Fund performance is shown at the 1st, the 5th, the 10th as well as the 90th, the 95th and 99th percentile.

Special Situations Public Market Equivalent PME	(I) All funds	(II) Funds with vintage prior to 2015	(III) Funds with vintage equal to or after 2015
Ø PME IG	1.09	1.13	1.04
Ø PME HY	1.09	1.09	1.08
Ø IRR %	12.43	10.39	14.53
1st percentile IG	0.45	0.45	0.67
1st percentile HY	0.44	0.44	0.72
5th percentile IG	0.72	0.61	0.72
5th percentile HY	0.69	0.58	0.77
10th percentile IG	0.78	0.73	0.83
10th percentile HY	0.77	0.69	0.84
90th percentile IG	1.42	1.57	1.33
90th percentile HY	1.43	1.48	1.40
95th percentile IG	1.57	1.67	1.36
95th percentile HY	1.57	1.69	1.45
99th percentile IG	2.38	2.38	1.55
99th percentile HY	2.33	2.33	1.59
Observations	**61**	**31**	**30**

Special situations funds cover several areas including distressed and mezzanine, where loan decision or grade is defined by something other than underlying company fundamentals.

We find a **mean outperformance** of this strategy against the IG benchmark in the amount of 9% for the cross-section of direct lending funds by our sample. The mean outperformance against the HY benchmark also amounts to 9%. The mean outperformance for funds launched in 2015 or later and against the IG benchmark, shows a decrease in the PME to 1.04, as opposed to that of funds launched prior to 2015 (PME = 1.13). Contrary to this significant decline in PME against the IG benchmark, the mean outperformance against the HY benchmark and for the two periods remains more or less stable and declines by only 1% from 9% (PME 1.09) to 8% (PME 1.08).

Fund PMEs at the **90th percentile** outperform the market by a substantial 42% (43%) against the IG (HY) benchmark on average and by 57% (48%) / 33% (40%) for vintages prior to 2015 / vintages thereafter.

Fund PMEs at the **10th percentile** underperform the market by 22% (23%) against the IG (HY) benchmark on average and by 27% (31%) / 17% (16%) for vintages prior to 2015 / thereafter.

To receive our full report, please contact
pascal.boeni@remaco.com
christoph.frick@remaco.com
jennifer.musumeci@remaco.com

A PDF version of this report is also available at
www.remaco.com/research-notes/

remaco

The art of capital management, since 1947.

Remaco · Q1 2021

Private Debt Quarterly

Prof. Pascal Böni, PhD

Prof. Dr. Heinz Zimmermann