EDISON

Listed private capital

Defining the LPC arena

Financials

7 June 2018

According to Preqin/McKinsey, private capital (PC) AUM has grown from $0.7tn in 2000 to $5.2tn in 2017. Private equity (PE) remains the largest subsector, but a number of other asset classes have developed rapidly over recent years, including infrastructure and private debt. The listed private capital (LPC) sector provides public market investors with access to these diverse investment opportunities. In light of LPEQ's strategic shift to represent the LPC arena, we examine the size and scope of LPC and the opportunities it presents to investors. We estimate that the European LPC arena is capitalised at £130bn and offers an attractive risk-reward profile compared to traditional listed investments.

Structural drivers of LPC

Recognising the increase in diversity and depth in the underlying private capital markets, LPEQ has repositioned to represent the growing LPC space as a whole rather than focusing exclusively on listed private equity (LPE).

A number of structural themes are driving growth in PC: investors' need for long-duration assets in an extended low interest rate environment, large pension deficits, ageing populations and stretched government balance sheets in developed economies. Developing economies are witnessing rapid urbanisation and the need to invest in key infrastructure projects. New technology continues to be a driver including in healthcare and alternative energy. Finally, regulatory change has led to a retrenchment of banks' financing capabilities, while the wealth of affluent and high net worth individuals continues to grow.

We focus on the following key areas: private equity, infrastructure (including renewable energy) and private debt. These specialist assets can offer attractive returns but are also illiquid. They are thus highly suited to being managed in a closed-ended LPC structure and there are a large number of such vehicles listed in London and in Europe.

The European LPC sector is capitalised at £130bn

We do not claim that our list of companies is totally exhaustive. However, based on our definition, the European LPC sector is significant at 99 companies with around £130bn in market capitalisation, representing assets of £127bn. In addition, we have identified a further £108bn of external investments managed by the diversified LPE/third-party managers.

LPC represents the only way for public market investors to get access to the large, diverse and growing set of private investment opportunities. Total returns have proved attractive over the medium and longer term, and the key asset classes of listed private equity, listed infrastructure and listed private debt allow investors to structure portfolios across risk buckets, industry sectors, geographies and from growth to income strategies.

Companies in this report

See Appendix

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This report has been commissioned by LPEQ Ltd

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Structural drivers of LPC

According to Preqin/McKinsey, private capital (PC) assets under management (AUM) have grown from $0.7tn in 2000 to $5.2tn in 2017, a compound growth rate of 12.5% per annum. Private Equity (PE) remains the largest subsector at nearly 55%, but a number of other asset classes have developed rapidly over recent years, including infrastructure and private debt. By region, North America dominates at 55%, but Europe is significant representing nearly 25% of the total. We illustrate the PC universe below.

Exhibit 1: Private capital assets under management

$bn	Global	North America	Europe	Asia	RoW
Private equity	2,829	1,479	646	567	137
Real estate	810	469	210	93	36
Private debt	637	418	168	39	12
Natural resources	535	363	84	25	63
Infrastructure	419	180	134	61	44
Total private market AUM	5,230	2,909	1,242	785	292

Source: Preqin/McKinsey

The universe of these opportunities has expanded over recent years**,** driven by a number of factors.

In developed economies in particular, ageing populations, increasing longevity and a protracted period of low interest rates have led to persistent pension deficits. This pension gap was $3.8tn in the US in 2017, slightly higher than $3.5tn nearly a decade earlier in 2008 according to the Federal Reserve Bank. These stubborn deficits are encouraging investors to find long-duration assets with attractive risk-reward profiles, ideally with inflation protection.

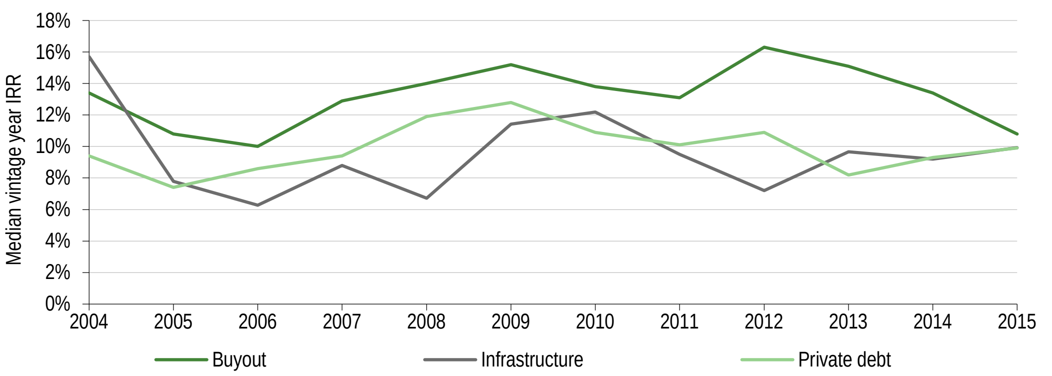
Post the global financial crisis, many governments in developed economies are burdened by stretched balance sheets and fiscal deficits, encouraging partnering with providers of private capital to fund vital infrastructure upgrades.

Developing economies are witnessing rapid urbanisation and need to invest in key infrastructure projects such as roads, bridges and communications. New technology continues to be a driver including in healthcare and alternative energy.

Finally, regulatory change has led to a retrenchment of banks' financing capabilities, while the wealth of affluent and high net worth individuals continues to grow.

Private capital returns have been attractive over the long term with median vintage year returns averaging around 11%, as illustrated below.

Exhibit 1: Median IRRs by vintage year for private capital sectors



Source: Preqin

Hence the outlook for investor demand remains strong, notably in private debt and infrastructure.

Exhibit 3: Private capital investor intentions

Investor longer-term allocation intentions	Private equity	Private debt	Infrastructure
More	39.0%	62.0%	50.0%
The same	56.0%	29.0%	46.0%
Less	5.0%	9.0%	4.0%

Source: Preqin

From LPE to LPC

Private equity (PE) has traditionally been regarded as the main way of investing in unlisted companies, and listed private equity (LPE) has been the main avenue for public market investors in accessing the space.

However, the market has been developing over the last several years, driven by the forces detailed above, and listed private capital (LPC) companies form a diverse opportunity set for investors across a range of underlying assets and geographies. Private assets are highly suited to being managed in a closed-ended LPC structure and there is a large number of such vehicles listed in London and in Europe.

LPC is relevant to public market investors as the only channel enabling them to access this very significant and diverse investment universe, managed by specialists in a structure offering daily liquidity.

The board of LPEQ recognises these important changes in the market and the potential advantages for its members in promoting the LPC sector as a whole, with a focus on the key areas of private equity, infrastructure and private debt.

Defining the scope of LPC in Europe

We define LPC companies as publicly listed, internally/externally managed vehicles, which make private capital investments across the capital structure. This includes listed private equity, listed private debt and listed infrastructure.

We began the analysis with data from the Association of Investment Companies (AIC) for UK-listed private equity, infrastructure (including renewable energy) and private debt (including leasing and real estate). This was then supplemented with IP commercialisation companies and continental European investment companies with significant activities in unlisted investments. We also subdivide the LPC sector by business model, differentiating between diversified fund/third-party asset managers (eg 3i) and investment companies with both listed and significant unlisted activities.

In some cases we include companies from other AIC sectors or move companies between sectors to conform to our broad business model definitions. So, for instance, we include Woodford Patient Capital in investment companies with major PE allocations due its 68% weighting in unquoted (largely healthcare) companies. JZ Capital partners is placed in PE and 3i is included in diversified LPE/third-party managers.

The principal data source was AIC membership data at 11 May 2018, which we supplemented with non-AIC companies using Bloomberg and company disclosures.

We arrive at a total of 99 companies with a market capitalisation of £130bn. Total on-balance sheet managed assets/NAV are £127bn with a further £108bn of third-party managed assets.

Exhibit 4: European listed private equity by sector

Sector	Assets/net assets (£m)	Market cap (£m)	Number of companies	Market cap (%)	Third-party AUM (£m)
Private debt including leasing	7,719	7,689	28	5.9%	
Infrastructure inc renewable energy	13,720	14,174	13	10.9%	
Private Equity inc IP, resources	18,862	17,878	40	13.8%	
Diversified LPE/third-party managers	22,727	37,116	9	28.6%	108,300
Inv companies with major PE allocations	64,084	52,855	9	40.7%	
Total LPC Europe	127,112	129,713	99	100%	108,300

Source: AIC, Edison Investment Research, Bloomberg, company data

The individual constituents of European LPC are listed in the Appendix at the end of this report.

Diversified LPE/third-party managers dominate total assets

The diversified sector dominates in terms of combined assets with £23bn of on-balance sheet assets and an additional £108bn of third-party assets. The main companies included are Partners Group, 3i, Eurazeo, Intermediate Capital Group and Tikehau.

By market cap, investment companies with major PE allocations is the largest subsegment, representing 41% of the total we have identified. This segment comprises companies with significant listed and unlisted activities such as Investor and Kinnevik in Sweden, with roughly 28% and 13% in unlisted equities respectively, Scottish Mortgage Investment Trust with 15% in unlisted equities (but flexibility to increase this to 25%), and Brederode with 48% of investments in unlisted companies.

'Traditional' LPE investment companies (UK plus Continental Europe) rank third by market cap at just under 14% of the total. Note that we include 3i in the hybrid category, which adds £9.5bn to the market cap of this sector. Infrastructure comes in at a close fourth place at 11%.

Advantages of private capital markets

From an investor perspective, the private company universe offers a diverse set of global opportunities across industries, geographies and capital structure.

The key advantages for companies accessing private capital markets are the ability to secure long-term capital, giving management time to execute their strategy without the short-term distractions and costs of public markets, the ability to choose which investors to work with and a lower regulatory burden. Private capital structures benefit from an alignment of interests in generating long-term value.

General partner (GP) and limited partner (LP) vehicles are usually run by professional managers who are able to add additional value by applying operational best practice, access to attractive financing, strategic insight and M&A advice, etc.

We illustrate the size of capital raising in the private vs public markets in recent years in Exhibit 5 below.

Exhibit 5: Private capital new fund-raising

Aggregate capital raised $bn	Private equity	Private debt	Real estate	Infrastructure	Natural resources
2013	317	76	108	49	72
2014	369	69	117	42	64
2015	363	100	137	50	82
2016	440	100	126	66	71
2017	486	115	124	67	74
2018 Q1	80	14	33	6	13

Source: Preqin

Advantages of listed private capital

The main drawbacks for investors considering GP/LP structures are the large minimum investment levels (typically $1m+), the lack of liquidity as investment funds are committed for several years at a time, and the need to manage drawdowns of commitments as they fall due.

The listed private capital (LPC) sector addresses these limitations. LPC companies offer investors the advantages of being able to access the diverse private capital spectrum with a liquid tradeable security, no minimum investment requirement (beyond the price of one share) and no commitments beyond the initial purchase of shares.

The LPC sector thus represents a sizeable, vibrant and diverse opportunity set for public market investors to access private capital investments.

Review of key listed private asset classes

We outline below the key features of the underlying asset classes, growth drivers and review performance of the listed entities over medium- and long-term horizons.

Listed private equity (LPE)

LPE companies offer investors the ability to invest into the equity of unlisted companies across buyout, growth and venture strategies. There is a diverse range of companies including global, regionally focused, sector focused, direct and fund-of-funds.

The key features of LPE companies is the differentiated ownership model, which features strong alignment of interests between the GP, LPs and management, the potential for value added from operational improvements and the clear exit strategy determined at the outset.

LPE growth drivers

PE continues to grow as a result of investor demand, backed by strong long-term investment returns. In addition, companies are waiting longer to go public as they recognise the value of working within the private equity structure. 2017 marked another record in new fund-raising of $486bn, according to Preqin quarterly data.

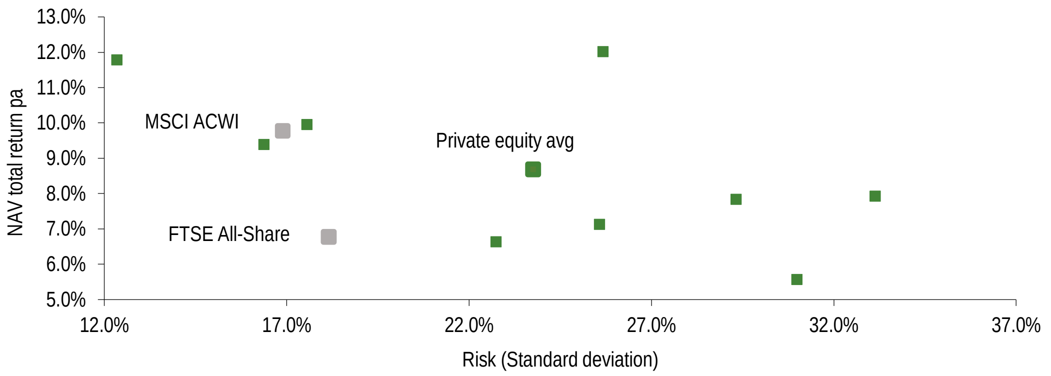
Strong five-year performance

To analyse LPE investment performance, we aggregate the standard deviation of share price total returns and compound NAV total returns in sterling using AIC data for companies with a market capitalisation above £100m and excluding those in realisation/liquidation and 3i, which is also a large third-party manager.

Performance has been reasonable on average over 10 years compared to major indices, although with some dispersion and higher volatility induced post-financial crisis, and a difficult comparative. The average compound total NAV return of 8.7% is similar to the average of the MSCI ACWI and FTSE All-share indices.

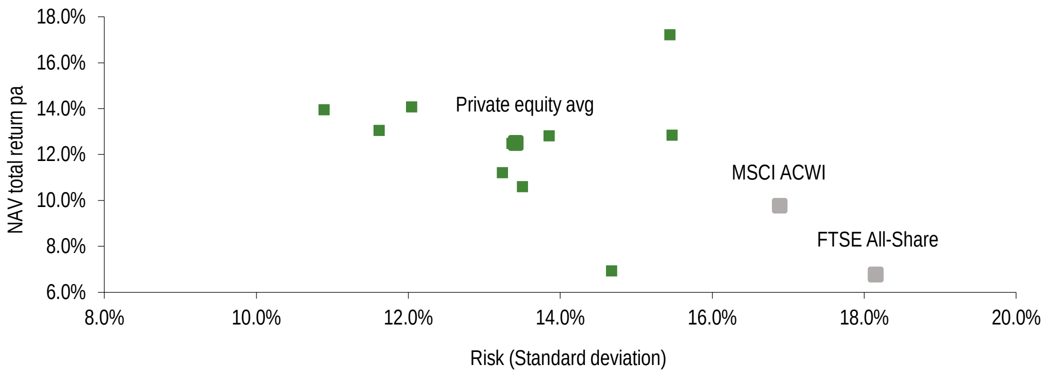
Over the last five years performance has been clearly superior, with the average LPE company generating a 12.5% return per annum, 250-550bp above the major indices and with much lower share price volatility.

Exhibit 6: LPE 10-year risk-return



Source: AIC, Bloomberg, company data, Edison Investment Research

Exhibit 7: LPE five-year risk-return



Source: AIC, Bloomberg, company data, Edison Investment Research

Listed infrastructure (LPI)

We define listed infrastructure as those funds investing in operational assets, as opposed to funds investing in listed corporates that own the assets – a key distinction as the latter are really equity sector funds equity – which carry general equity market risk and volatility.

Infrastructure assets typically provide investors with a wide opportunity set of very long-duration, relatively stable, inflation-protected income streams often in the form of public-private partnerships. Investments vary from traditional utilities such as power generation and distribution, alternative energy projects such as solar and wind farms to toll roads, bridges, rail concessions, hospitals, schools and communications. The volatility of revenues and returns is usually low as these projects are usually essential to modern society, with a clear identified demand for the asset.

The infrastructure asset manager can also add value by choosing the most attractive projects and, through operational excellence, help achieve the highest returns.

Although listed infrastructure still carries some general equity market risk, the volatility and correlation with equity markets is usually low as the underlying assets tend to have smoother reported returns. As for all listed private capital investments, market risk becomes less important over longer time frames as the underlying asset risk-reward prevails. Hence, listed infrastructure lies somewhere between debt and equity in terms of risk and reward.

Investor interest originally stemmed from the low risk and volatility of the assets, but increasingly as a source of attractive returns in a low interest rate environment.

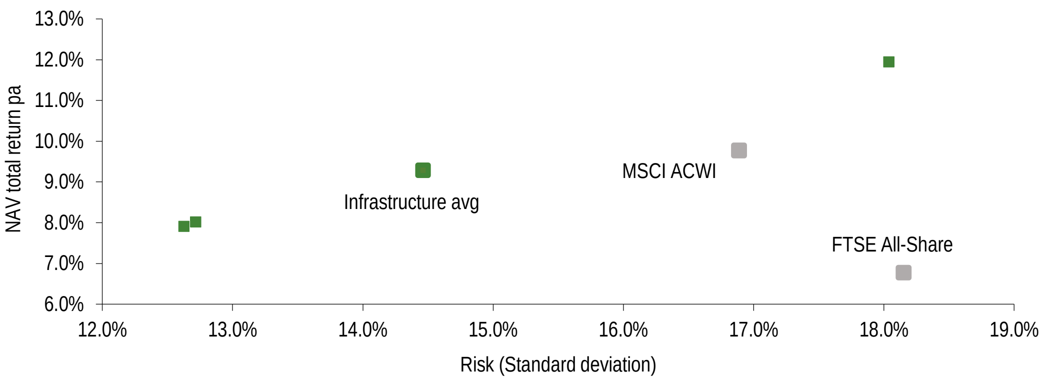
The key risks around infrastructure are the sensitivity of valuations to rising interest rates, as well as political and regulatory change.

Strong absolute and relative performance

We present compound average NAV total returns in sterling along with share price volatility (measured by standard deviation of returns) for those funds listed with the AIC for at least 10 years and five years. We can see that the sector has demonstrated a consistent attractive low volatility return with low dispersion across funds. Over the 10-year horizon, the average fund delivered a 9.3% compound NAV return against a share price standard deviation of 14.3%.This appears superior to the major equity indices. Similar conclusions can be made for the five-year horizon, which shows the average LPI company delivering a 10.2% compound return with standard deviation of 9.7%. Note that most of the infrastructure funds have a high average UK weighting making the FTSE All-Share the most relevant comparison. The MSCI ACWI has benefited from sterling devaluation post the Brexit vote.

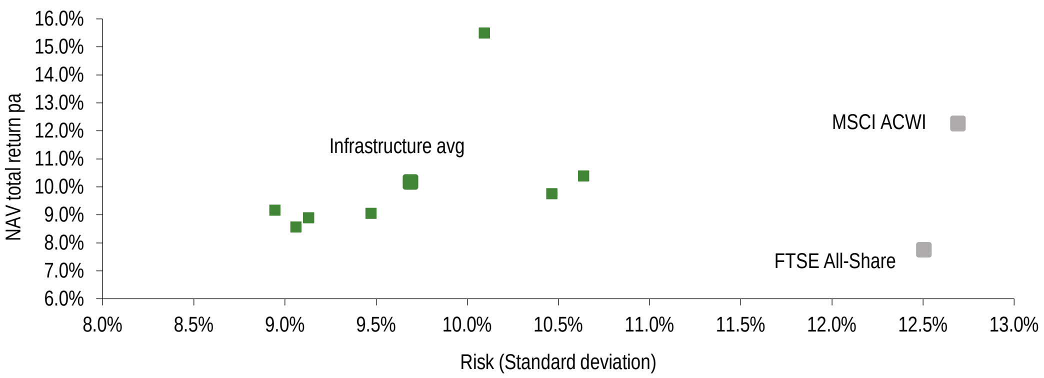
Moreover these returns are commensurate with the IRRs reported by Preqin earlier in this note.

Exhibit 8: LPI 10-year risk-return



Source: AIC, Bloomberg, company data, Edison Investment Research

Exhibit 9: LPI five-year risk-return



Source: AIC, Bloomberg, company data, Edison Investment Research

Drivers of growth in infrastructure investment

Infrastructure is a global asset class. In developed markets the focus is on schools, hospitals and utilities. Developed market governments are investing as a means to boost growth and employment as unconventional monetary policy actions are gradually withdrawn post financial crisis. Public balance sheets are stretched, however, providing an opportunity for private sector capital to supply an increasing share of the investment requirement.

In emerging markets, growing urbanisation and the resulting need for improved transport and cleaner energy are major factors behind the growth in demand for key assets like roads, bridges, renewable energy and water.

In addition, there is a need to replace or upgrade existing assets and to invest for future growth.

Finally, the development of new technologies such as renewable energy is another important driver, with governments aiming to diversify economies away from the dependence on fossil fuels to meet carbon emission targets.

Oxford Economics forecasts that global spend on infrastructure will grow from $2.3tn in 2015 to $3.8tn by 2040 in real terms, an increase of 67%. Moreover, the 2040 figure would increase to $4.6tn if all countries were to meet best practice.

Listed private debt (LPD)

We illustrate the mix in the private debt market in Exhibit 10 below, with the key subsectors comprising distressed, direct lending and mezzanine.

Exhibit 10: Private debt AUM 2016

Sub-sector	$bn	% total
Distressed debt	218	36%
Direct lending	159	26%
Mezzanine	144	24%
Special situations	74	12%
Venture debt	11	2%
Total	606	100%

Source: Preqin

The LPD sector represents a diverse set of companies that participate in these subsectors sometimes on a monoline basis and sometimes diversified across a number of segments including collateralised loan obligations (CLOs), which are a competitor to banks in the leveraged loan markets, asset-backed securities (ABS) and senior secured bonds. We have excluded from our analysis those AIC members focusing largely on traded asset classes and included substrategies like leasing and direct property debt.

Growth drivers of LPD

Growth in the private debt markets has been rapid, particularly following the financial crisis as banks de-risked in response to tougher regulation on capital. Banks have moved to an ‘originate-to-distribute’ model to conserve capital and, from a regulator’s point of view, this is reducing the systemic risks posed by large banks dominating the financing of economies. The retrenchment of banks during a period of low interest rates has enabled the sector to grow strongly. A record $115bn was raised to fund private debt investments in 2017, up from $100bn in 2016 for instance, according to Preqin quarterly data.

The appeal for investors in listed private debt is the diversity of the sector, the strong income yield in a low interest rate environment and relatively low volatility of returns, given that income represents a larger proportion of overall total return. Many private debt assets are also priced on a floating rate basis, which provides investors with some protection should interest rates rise significantly. Another defensive feature of private debt is the protection afforded through asset guarantees and tight legal documentation.

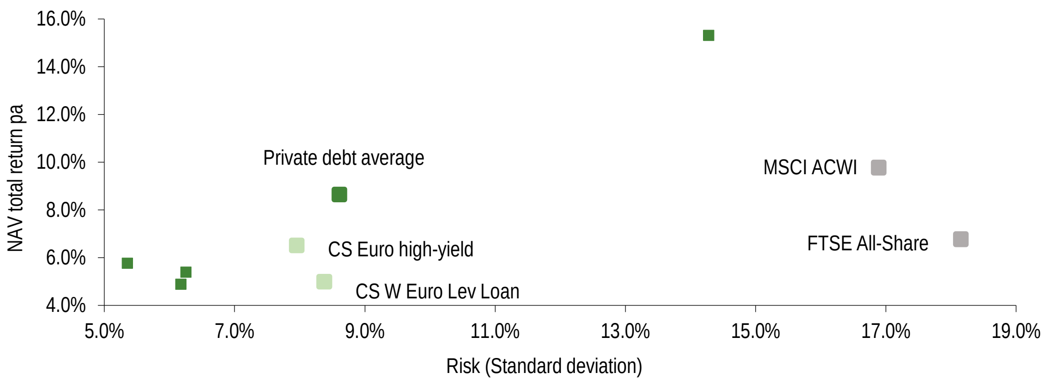
Performance: Attractive risk-reward

As the sector is relatively new there are insufficient companies with 10-year NAV performance records. Hence we have analysed performance over five years and three years to provide a useful universe. Overall net performance has been competitive compared to debt and equity markets as a whole, against the backdrop of a supportive economic and interest rate environment.

Over the five-year horizon the average LPD company delivered an 8.0% compound return with standard deviation of 8.6%, a return premium of 150-300bp compared to the Credit Suisse Western European leverage loan and European high-yield indices for a similar level of volatility.

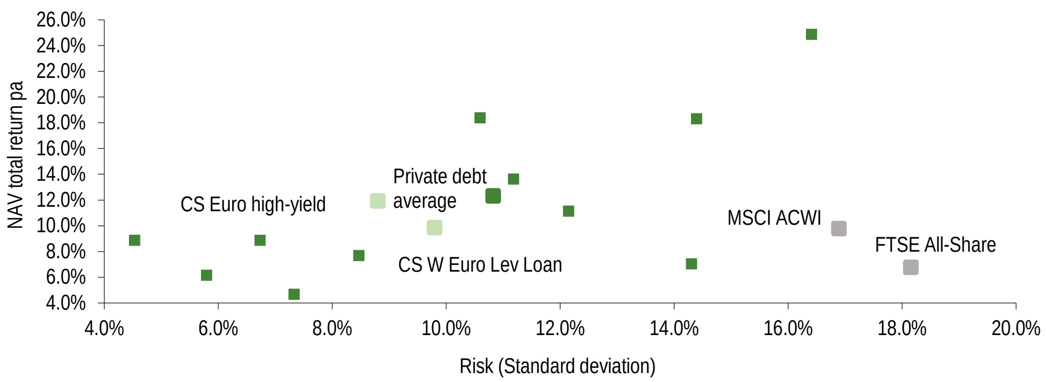
In terms of risks, private debt is sensitive to the overall economic environment and credit cycle. There may be some interest rate risk where assets are not floating rate based or in extreme interest rate cycles, which might affect the ability of corporates to meet coupon payments.

Exhibit 11: LPD five-year risk-return



Source: AIC, Bloomberg, company data, Edison Investment Research

Exhibit 12: LPD three-year risk-return



Source: AIC, Bloomberg, company data, Edison Investment Research

Conclusion

LPC represents the only way for public market investors to get access to the large, diverse and growing set of private investment opportunities. Total returns have proved attractive over the medium and longer term, and the key asset classes of listed private equity, listed infrastructure and listed private debt allow investors to structure portfolios across risk buckets, industry sectors, geographies and from growth to income strategies.

Appendix: European LPC companies

Exhibit 13: European LPC companies

Company name	Assets/net assets (£m)	Market cap (£m)	No of companies	Market cap (%)	Third-party AUM (£m)
Private debt incl leasing	7,719	7,689	28	5.9%	
NB Global floating Rate Income	869	867	1		
BioPharma Credit	793	824	1		
Amedeo Air Four Plus	605	684	1		
SQN Asset Finance Income	524	494	1		
Starwood European Real Estate Finance	381	399	1		
CVC Credit Partners European Opportunities	336	340	1		
VPC Specialty Lending Investments	328	291	1		
GCP Asset Backed Income	317	321	1		
Blackstone/GSO loan Financing	313	325	1		
Honeycomb	305	334	1		
Volta Finance	302	252	1		
Fair Oaks Income 2017	291	301	1		
Chenavari Toro Income Fund	285	232	1		
NB Distressed Debt	254	225	1		
Real Estate Credit Investments	228	231	1		
Carador Income	213	191	1		
UK Mortgages	213	217	1		
Alcentra European Floating Rate Income Fund	165	156	1		
Ranger Direct Lending	157	128	1		
DP Aircraft I	155	167	1		
Marble Point Loan Financing	148	155	1		
Hadrian's Wall Secured Investments	142	147	1		
ICG-Longbow Senior Secured UK Property Debt Inv	121	127	1		
RM Secured Direct Lending	97	101	1		
Tufton Oceanic Assets	69	71	1		
SQN Secured Income	51	49	1		
Fair Oaks Income 2014	32	35	1		
TOC Property Backed Lending	25	25	1		
Infrastructure inc renewable energy	13,720	14,174	13	10.9%	
HICL Infrastructure	2,629	2,597	1		
International Public Partnerships	1,978	2,035	1		
3i Infrastructure	1,711	1,823	1		
Greencoat UK Wind	1,176	1,220	1		
John Laing Infrastructure	1,193	1,166	1		
Renewables Infrastructure Group	1,037	1,085	1		
GCP Infrastructure Investments	982	1,040	1		
Sequoia Economic Infrastructure Income	752	805	1		
BBGI SICAV S.A.	659	693	1		
NextEnergy Solar	589	626	1		
Bluefield Solar Income Fund	403	438	1		
John Laing Environmental Assets Group	382	401	1		
Greencoat Renewables	229	245	1		
Private equity inc IP, resources	18,862	17,878	40	13.8%	
Melrose	16,128	10,320	1		
Lifco	1,094	2,441	1		
Aurelius	1,932	1,765	1		
IP Group	1,509	1,491	1		
GIMV*^	1,082	1,097	1		
Pantheon International*	1,268	1,074	1		
Riverstone Energy Partners	1,293	1,056	1		
HarbourVest Global Private Equity^	1,251	976	1		
HgCapital*	705	709	1		
Apax Global Alpha*	786	678	1		
Princess Private Equity Holding^	690	618	1		
ICG Enterprise	670	609	1		
Altamir SCA	690	553	1		
Standard Life Private Equity*^	597	519	1		
NB Private Equity Partners*	602	479	1		
JZ Capital Partners*	610	461	1		
Oakley Capital*^	497	365	1		
Draper Esprit	267	324	1		

Company name	Assets/net assets (£m)	Market cap (£m)	No of companies	Market cap (%)	Third-party AUM (£m)
Electra Private Equity*	427	318	1		
Allied Minds	158	283	1		
Arix Bioscience^	146	282	1		
Symphony International Holdings	438	278	1		
F&C Private Equity*	256	269	1		
JPEL Private Equity	255	223	1		
Mutares^	549	177	1		
Mercia Technologies	121	109	1		
Spice Private Equity	166	107	1		
Augmentum Fintech	94	95	1		
FinLab^	91	94	1		
Heliad^	105	81	1		
Dunedin Enterprise	92	78	1		
Better Capital 2012	144	76	1		
Baker Steel Resources	66	52	1		
LMS Capital	62	38	1		
Qannas Investments	38	31	1		
Better Capital 2009	40	23	1		
German Startups^	28	18	1		
Mithras	16	15	1		
MIC^	18	7	1		
Northern Investors Company	6	6	1		
Aberdeen Private Equity	4	4	1		
Diversified LPE/third-party managers	22,727	37,116	9	28.6%	108,300
Partners Group	2,173	14,537	1		53,897
3i	7,024	9,464	1		2,508
Eurazeo	4,142	4,762	1		9,203
Intermediate Capital Group	4,838	3,382	1		17,437
Tikehau	2,192	2,479	1		10,000
John Laing^	1,344	1,407	1		1,600
Deutsche Beteiligungs*^	400	471	1		1,548
DEA Capital^	429	418	1		9,792
CapMan*	185	196	1		2,315
Investment companies with major PE allocations	64,084	52,855	9	40.7%	
Investor AB	32,460	24,538	1		
Kinnevik	7,910	7,489	1		
Scottish Mortgage	7,406	7,190	1		
Wendel	6,771	5,129	1		
Sofina	4,982	4,440	1		
Brederode	1,625	1,357	1		
Luxempart	1,248	1,206	1		
HBM Healthcare*^	878	881	1		
Woodford Patient Capital	803	624	1		
Total LPC Europe	127,112	129,713	99	100%	108,300

Source: AIC, Bloomberg, company data, Edison Investment Research. Note: *LPEQ member. ^Client of Edison Investment Research.

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