THOUGHT LEADERSHIP

FEB 2019

BLACKROCK°

BLACKROCK PRIVATE EQUITY PARTNERS

The Advantages of Co-Investments



Author Russ Steenberg Global Head of BlackRock Private Equity Partners (PEP)

> Contributor Jeroen Cornel BlackRock PEP



What are co-investments?

Minority investments directly in companies alongside lead sponsors



BlackRock Private Equity Partners has invested over \$6.5 billion in 177 direct co-investments since its inception in 1999¹

Summary

Private equity co-investing is on the rise. Co-investing offers sophisticated institutional and high net-worth investors the opportunity to gain greater exposure to attractive assets but at lower fees-thus squeezing out fatter returns.

Since 2000, over \$104 billion has been raised in co-investment funds across a total of 662 funds–with a remarkable increase in the past six years, as shown in Figure 1.

The trend isn't stopping anytime soon: Co-investments were offered by 64% of fund managers in 2017, an increase of seven percentage points over 2016 and 12 over 2015², indicating General Partners are responding to Limited Partner demand for co-investments.

Numbe

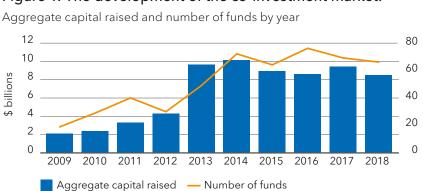
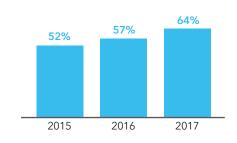


Figure 1: The development of the co-investment market:

Fund managers offering co-investments



Source: Preqin – Historical Private Equity Fundraising Statistics (co-investment and co-investment multi-manager) derived on 29 January 2019.

Source: Preqin – 2018 Global Private Equity & Venture Capital Report, derived on 29 January 2019.

1 As of 30 June 2018.

2 Preqin - 2018 Global Private Equity & Venture Capital Report derived on 29 January 2019.

blackrock.com

FOR FINANCIAL PROFESSIONALS AND QUALIFIED/WHOLESALE INVESTORS ONLY Not for Further Distribution ALTH0219U-743413-1/8 Like any trend, it's worth asking: Are the returns worth the hype? And what are the best practices to take full advantage of co-investments? Key takeaways:

- Institutional LPs looking to co-invest are better off outsourcing this capability to co-investment managers. Such managers are staffed with experienced investment and legal professionals– and have access to diversified deal flow.
- A recent study based on a bigger sample of the co-investment universe found that they outperform traditional direct funds, debunking other surveys suggesting adverse selection.
- Our work shows that incorporating co-investments in a diversified private equity program yields significant fee savings compared with a program only consisting of direct funds.
- Successful co-investors focus on companies with good fundamentals and don't attempt to time. Scoping out the potential for creating fundamental value is key to achieving the returns that make private equity attractive.
- BlackRock PEP currently has conviction in the following sectors: corporate roll-ups, healthcare, disruptive technologies and e-commerce models as well as corporate carve-outs.

Benefits and challenges of co-investing

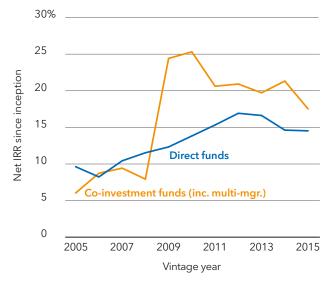
The post-crisis evolution of the private equity industry has seen demand for co-investment capital gain major momentum.

GPs were hard-pressed to meet fundraising goals during the financial crisis. As a result, co-investment rights were used as a go-to fundraising tactic to attract LPs. At the same time, GPs were increasingly looking to "friendly" LP capital in the form of co-investment rather than "clubbing" deals with other GPs. Many club deals resulted in poor outcomes as GPs faced big challenges working together while navigating distressed mega deals through the troubled waters of the crisis. The potential for higher returns and fee savings (more ahead) drove the popularity of co-investments over the past decade. Co-investing also offers the ability to deploy capital at a faster rate while potentially mitigating the J-curve. Based on internal simulations, BlackRock estimates a co-investment allocation of 20-30% can reduce the J-curve by 12-18 months. From a more qualitative perspective, co-investing provides LPs a "peek behind the curtain," allowing a better understanding of a GP's sourcing capability and operational skill-thereby providing enhanced primary fund intelligence. In an industry where transparency is scarce, LPs capable of transacting in co-investments enjoy this superior access into a GP's inner workings together with the opportunity to generate future deal flow.

Still, co-investing requires a broad skillset and, if done correctly, deep resources. Investment opportunities are often presented with tight timeframes, sometimes just weeks before a final decision. As such, the ability to ramp up diligence quickly and thoroughly is even more critical in today's market. Once a decision is made to invest, an experienced legal team is essential for reviewing and negotiating the terms of the transaction. LPs need to be as aligned as possible with GPs in order to protect their stakes from potential complications. Upon closing, time needs to be devoted to regularly engaging with the lead GP and attending board meetings.

The resources and expertise required to execute co-investments are typically too costly and timeconsuming for most institutional LPs, thus making proper in-house co-investing difficult for most. A more cost-efficient solution is to outsource the co-investment portion of a program to a co-investment manager with deep expertise and access. BlackRock Private Equity Partners has been an active co-investor since its inception in 1999, managing co-investments on behalf of institutional clients through commingled and separate account programs. Co-investment managers such as BlackRock not only have the aforementioned resources to properly diligence and swiftly execute deals, but may offer LPs a co-investment portfolio with more diversification and lower risk than a traditional direct private equity fund.





* Direct funds include buyout, venture capital, growth, turnaround, balanced and direct secondaries. Source: Preqin, derived on 29 January 2019.

Do co-investments pay off?: A look at outperformance

Based on Preqin's performance data, co-investment funds have outperformed direct private equity funds based on median net IRR since 2009.

While some studies tout the benefits of the practice⁴, others claim that co-investments underperform compared with fund counterparts due to deliberate

adverse selection by the GP. This doesn't quite add up: GPs often use co-investments to strengthen relationships with LPs. It thus seems unlikely that a GP would explicitly select investments which would perform poorly.

Such critical studies appear to be based on small and unrepresentative samples. However, a study with a more robust methodology presented at the 2015 Oxford private equity risk symposium finds that co-investments substantially outperform traditional private equity funds.

Figure 3 below tabulates performance of private equity deals by co-investments and non-co-investments. The study shows the Kaplan-Schoar PME ratio, a metric that compares private equity returns to that of public equity. Outperformance is indicated when this ratio is greater than 1.00.

Both the equally weighted mean and median are slightly higher for the co-investment universe, indicating higher outperformance. This trend persists when capital weighting this performance as shown in the far right column. Lastly, the standard deviation for co-investments is smaller compared to that of nonco-investments despite having a significantly smaller sample set. Our verdict is that the gross returns of co-investments are at par with deals that are not offered for co-investing.

		Gross KS-PME ratio (unweighted)			Gross PME (weighted)
	Observations	Mean	Median	SD	Mean
All deals	5,764	1.70	1.14	2.15	1.60
Co-investments	365	1.76	1.16	2.10	1.76
Non-co-investments	5,399	1.70	1.13	2.15	1.59

Figure 3: Gross KS-PME ratio for co-investments and non-co-investments (Deals not offered for co-investing)

Source: Braun, R.; Jenkinson, T., Schemmerl, C. Adverse selection and the performance of private equity co-investments. Working paper presented at Oxford private equity risk symposium 2015. The Kaplan Schoar-PME is calculated by discounting private equity fund cash flows by the public market index value. The discounted distributions plus the current remaining value are divided by the discounted contributions to obtain the ratio. Private equity outperformance is indicated if the ratio is greater than 1.00.

4 Cambridge Associates, Making Waves: The Cresting Co-investment Opportunity 2015. Past performance is not indicative of future results.

Do co-investments pay off?: The impact of fees

Investors are increasingly enticed by co-investments' potential for higher expected returns, which is largely a function of lower fees. A crucial difference between co-investment funds and traditional private equity funds is the economics behind the two transaction types.

Typically the economics of a traditional fund include a 2.0% management fee and 20% sharing of profit, known as carried interest.

Providers offer co-investment funds at significantly lower fees—for example, a 0.75%-1.50% management fee and 10%-15% carried interest. Providers not only charge lower management fees and carried interest but also offer risk management benefits, such as active portfolio construction and diversification.

Figure 4 shows the hypothetical capital distribution breakdown of a traditional fund versus a co-investment fund. The left column shows the economics of a typical fund with gross underlying deal performance of 2.0x. A third of the profits go to the GP via the management fee and/or carried interest. The right column shows the costs for a co-investment fund are substantially lower– in fact, less than half. Looking more closely, the management fee reduces by two-thirds and the carried interest halves compared to investing in a traditional fund.

Assuming the same gross deal performance, these reduced costs result in higher net performance for the LP. In this case the gain to the investor increases by 26%.

Creating a diversified private equity program is essential for any institutional investor trying to mitigate risk. Figure 5 on the next page shows the fee savings by gradually replacing traditional private equity funds with co-investment funds.

For a moderate co-investment allocation of 20%, we find savings of \$3.6 million in management fees and carried interest over the life of a diversified private equity program. For a program with 50% co-investments, potential savings are estimated to be \$9.1 million–a substantial figure for a \$100 million commitment.

These differentiating economics combined with the same gross deal returns, as shown in Figure 3– undoubtedly form the main reason for the increasing appetite in co-investments.

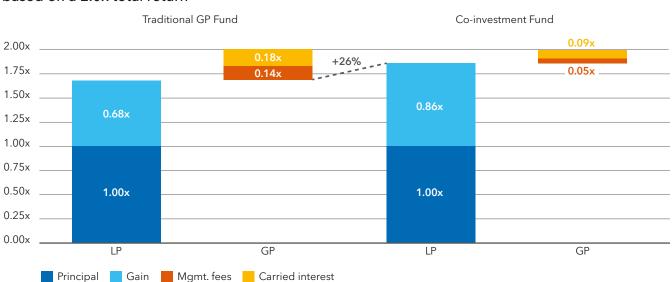


Figure 4: Distribution of capital comparing a traditional GP fund and co-investment fund based on a 2.0x total return

Source: BlackRock Private Equity Partners. Gross deal level returns = 2.0x. Fund terms: 2% fee, 20% carry deal-by-deal, 8% hurdle. Co-investments terms: 0.75% fee, 10% carry European, 8% hurdle. Calculations based on \$100m program and represent life-time estimates. For illustrative purposes only. Does not represent an actual product. It cannot be guaranteed that similar savings will be achieved in the future.

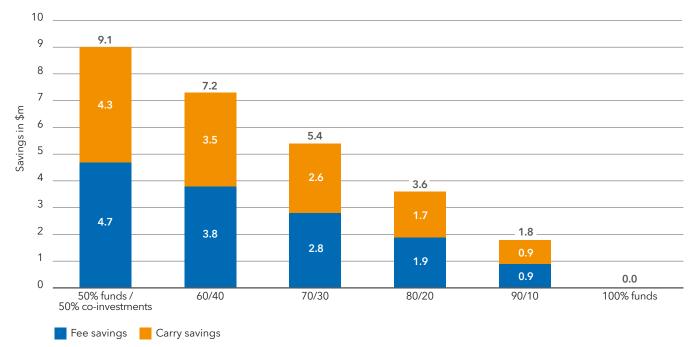


Figure 5: Simulating cost savings ranging from 100% funds to a balanced program (\$100m commitment)

Source: BlackRock Private Equity Partners. Gross deal level returns = 2.0x. Fund terms: 2% fee, 20% carry deal-by-deal, 8% hurdle. Co-investments terms: 0.75% fee, 10% carry European, 8% hurdle. Calculations based on \$100m program and represent life-time estimates. Does not represent an actual product. It cannot be guaranteed that similar savings will be achieved in the future.

Why "timing" doesn't work

We believe that good and bad investment opportunities exist in all markets. Yet all too often we hear of investors attempting to "time" the private equity market. This concept is difficult to execute in any asset class, let alone private equity, given the long lead-times for deploying capital and the long holding period for most investments.

When investors place undue emphasis on timing, they deviate from a programmatic investment approach– creating a bigger risk of missing out on opportunities or generating poor results. Successful co-investors focus not on timing, but rather on a rigorous and independent approach to assessing asset fundamentals—with an eye toward the potential for value creation. Implementing such a strategy means working with GPs who have expertise in specific industries and a strong track record of execution through previous market cycles.

That's not to say that market conditions aren't an important investment factor. Proper discipline at all points in the private equity investment cycle is critical. A co-investor who pays too much for a company with good fundamentals is no better off than an investor who tried to time the market.

Attractive themes and sectors

Although high market valuations remain the status quo, we believe there are markets and sectors that can deliver significant value in the current environment. Below, we indicate four promising sectors where we have strong conviction due to market conditions and macroeconomic factors:



Corporate roll-ups: Corporate roll-ups typically involve acquiring smaller players at discounted multiples, which ultimately seek to reduce operating costs by leveraging economies of scale. These opportunities often materialize during economic downturns or when a market or sector reaches maturity. The most successful corporate roll-up deals occur in fragmented industries lacking a dominant player. We recently invested in a leading provider of testing, inspection and certification (TIC) services mainly focused on consumer goods. Acquisition and consolidation has been an ongoing trend in global TIC over the past two decades to achieve greater scale and efficiency. The company will seek to fund both smaller bolt-on and large transformational acquisitions in the future.



Healthcare: Healthcare remains an exciting sector due to a demand for cost-reducing innovations from across the market, including drug-makers, medical devices and service providers. Particularly in the US, there is an increased need for value-based services and lower-cost alternatives as healthcare spending continues to rise but increasingly fall on the shoulders of consumers rather than employers. Healthcare offers a wealth of growth opportunities to address market inefficiencies, whether specialty pharmaceuticals addressing drug pricing pressures or healthcare IT creating mobile technologies for health professionals. Our own portfolio reflects these ongoing themes. This includes investments in a provider of payment accuracy solutions for the healthcare space and a provider of market-leading prescription and consumer healthcare products.



Disruptive technologies and e-commerce

business models: With the ongoing global shift to e-commerce, companies that rely on disruptive technologies and e-commerce business models hold immense growth potential for the foreseeable future. New technologies provide a significant opportunity to claim market share through first-mover advantages. An example of this is a recent co-investment we made in a highly scalable, next-gen data storage and management solution. Furthermore, we have two co-investments in leading e-commerce players in South Korea and China. Each demonstrates how e-commerce platforms are significant opportunities across sectors and markets.

Corporate carve-outs: Carve-outs have historically been an attractive private equity play, presenting an opportunity for PE owners to drive value creation in what were previously non-strategic assets. Since these types of investments can often be acquired for smaller multiples, carve-outs are particularly attractive in the current high valuation market. Once independent, the business unit can implement the necessary changes to maximize value. An example from our portfolio is a global consumer intelligence and data analytics company which divested from its parent company. As an independent unit, the company is better positioned as a technologyfocused big data firm.

Caution and discipline remain essential

In any deals, the key is to stick to an investment discipline and exercise caution on price and leverage– especially in this environment. We believe those who can scope out the potential to create fundamental value in a variety of strategies and sectors are more likely to achieve the types of returns that make private equity attractive. Investing with GPs who have expertise in specific industries and a track record of executing well through market cycles can potentially increase the chance for success.

The above case studies represent the most recent direct co-investments executed by PEP in each respective category as of 30 June 2018. The information above is not a prediction of future performance or any assurance that comparable investment opportunities will be available to the manager at the time of investment.

General disclosures

These materials have been provided to you on a confidential basis for information purposes only, are subject to modification, change or supplement without prior notice to you (including without limitation any information pertaining to strategies used), and do not constitute investment advice or recommendation and should not be relied upon by you in evaluating the merits of investing in any securities referred to herein. The information presented herein is provided solely as reference material with respect to PEP and its activities. It does not constitute an offer to sell or a solicitation of an offer to buy any interests in any PEP fund (each, a "PEP Fund" and, collectively, the "PEP Funds"). Any such offering will occur only at such time that a private placement memorandum ("PPM") of a PEP Fund is made available and only in accordance with the terms and conditions set forth in the PPM. Prospective investors are strongly urged to review the PPM when available for more complete information (including the risk factors described therein). All information provided by reference to the PPM. There can be no assurance that a PEP Fund's investment objectives will be achieved and investment results may vary substantially over time. Investment in a PEP Fund is not intended to be a complete investment program for any investor.

PEP is not making any recommendation or soliciting any action based upon the information contained herein. This information is furnished to you with the express understanding that it does not constitute: (i) an offer, solicitation or recommendation to invest in a particular investment in any jurisdiction; (ii) a means by which any such investment may be offered or sold; or (iii) advice or an expression of PEP's view as to whether a particular investment is appropriate for you and meets your financial objectives.

The information contained in these materials has been compiled as of January 2019, unless otherwise stated herein. Where the information is from third party sources, the information is from sources believed to be reliable, but none of the PEP Funds, their placement agent, BlackRock, Inc., PEP, PEP Funds' advisers or any of their respective affiliates, or the partners, officers or employees (as the case may be) of any of them, has independently verified any of the information contained herein or assumes any liability for it. Additionally, none of these parties is required to provide recipients of this document with updates, modifications, or amendments to the information, opinions, estimates, or forecasts described herein should BlackRock, its affiliates, or any third party sources determine that such currently set forth communication becomes inaccurate.

Any research in this document has been procured and may have been acted on by BlackRock for its own purpose. The results are being made available only incidentally. The views expressed do not constitute investment or any other advice and are subject to change. They do not necessarily reflect the views of BlackRock as a whole or any part thereof and no assurances are made as to their accuracy.

Past performance is not indicative of future results. The value of investments and the income from them can fall as well as rise and is not guaranteed. You may not get back the amount originally invested. Changes in the rates of exchange between currencies may cause the value of investments to diminish or increase. Fluctuations may be particularly marked in the case of a higher volatility fund and the value of an investment may fall suddenly and substantially.

All investments risk the loss of capital. No guarantee or representation is made that any private equity investment or fund offered or sponsored by PEP will achieve its investment objective. In addition, there are risks associated with investing in private equity that are not applicable to typical investments in the public equity markets. These risks include, but are not limited to, the following: private equity investments are speculative and involve a high degree of risk; an investor could lose all or a substantial amount of his or her investment; interests in private equity investments are illiquid and there is no secondary market nor is one expected to develop for interests in such investments or any fund offered or sponsored by PEP; there are significant restrictions on transferring private equity investments; private equity investments experience volatile performance; private equity funds are often concentrated and lack diversification and regulatory oversight; private equity funds have high fees and expenses (including "carried interest") that will reduce such investments' returns and a private equity investment or a fund offered or sponsored PEP may invest in other funds which themselves charge management fees and carried interest (typically, 20% of the net profits generated by the fund and paid to the manager); a private equity investor has an ongoing financial commitment to make contributions to such funds, is subject to severe consequences in cases of default and may have to recontribute distributions to private equity investments; and funds offered or sponsored by PEP can be subject to various conflicts of interest arising from the fact that many private equity sponsors, including BlackRock, are global financial services firms which provide a broad array of financial services and are, in some cases, related to other large financial services firms. Private equity funds may make a limited number of investments. These investments may be in start-up ventures with little or no operating histories or in companies that may utilize significant leverage and will involve a high degree of risk. In addition, a PEP Fund may make minority equity investments where such PEP Fund may not be able to protect its investment or control or influence effectively the business or affairs of such entities. The performance of a PEP Fund may be substantially adversely affected by a single investment. A PEP Fund may obtain rights to substantially influence the conduct of the management of companies in which it invests, including its members serving on the board of directors. This or other measures could expose the assets of a PEP Fund to claims by a portfolio company, its security holders, its creditors and others. Also, private equity investments may be highly leveraged, which increases the risk of investment losses. For a more extensive discussion of the risks associated with an investment in such funds, you should carefully review the "Certain Risk Factors" and "Potential Conflicts of Interest" sections of the respective PEP Fund's PPM.

Please note that, generally, an investor in a PEP Fund may not transfer, assign, or otherwise dispose of his/her/its interests in such PEP Fund (the "Interests"), except with the prior written consent of the general partner of the relevant PEP Fund, which has sole discretion regarding the granting of such consent. In addition, investors who do not fund their capital commitments when due will be subject to severe penalties, including forfeiture of their Interests. Investors should carefully review the relevant PEP Fund's PPM, when it becomes available, and, specifically, the "Certain Risk Factors" section.

Interests have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), or any other U.S. or non-U.S. securities laws, will not be offered or sold in the United States or to U.S. persons unless the securities are registered under the Securities Act or an exemption from the registration requirements of the Securities Act and any applicable u.S. and non-U.S. securities laws. The Interests may not be transferred or resold except as permitted under the Securities Act and any applicable U.S. or non-U.S. securities laws. The Interests may not be transferred or resold except as permitted under the Securities Act and any applicable U.S. or non-U.S. securities laws. The Interests have not been recommended by any U.S. federal, other U.S. or non-U.S. securities commission or regulatory authority. Furthermore, the foregoing authorities have not confirmed the accuracy or determined the adequacy of these materials. Any representation to the contrary is a criminal offense. Interests are not insured by the U.S. Federal Deposit Investment for an undefinite period of time because the Interests (i) cannot be aware that they may be required to bear the financial risks of an investment in the Interests for an indefinite period of time because the Interests (i) cannot be sold unless they are subsequently registered under I applicable securities laws or an exemption from registration exists and (ii) are subject to the restrictions on transfer contained in the limited partnership agreement of the relevant PEP Fund.

Private equity investments are less transparent than public investments and private equity investors are afforded less regulatory protection than investors in registered public securities. Private equity funds are sold in private placements and may be offered only to individuals who are both "qualified purchasers" (as defined in U.S. Investment Company Act of 1940, as amended) and "accredited investors" (as defined in the Securities Act) and for whom the investment is otherwise suitable. There can be no assurance that a PEP's investment objectives will be achieved and investment results may vary substantially over time. Investment in a PEP Fund is not intended to be a complete investment program for any investor.

Opinions and estimates offered herein constitute the judgment of BlackRock and are subject to change. All opinions and estimates are based on assumptions, all of which are difficult to predict and many of which are beyond the control of BlackRock. In addition, any calculations used to generate the estimates were not prepared with a view towards public disclosure or compliance with any published guidelines. In preparing this document, BlackRock has relied upon and assumed, without independent verification, the accuracy and completeness of information provided by third parties. BlackRock believes that the information provided herein is reliable; however, it does not warrant its accuracy or completeness.

The information contained herein is proprietary and confidential and may contain commercial or financial information, trade secrets and/or intellectual property of BlackRock. If this information is provided to an entity or agency that has, or is subject to, open records or open meeting laws or similar or related laws, rules, regulations or policies that do or may permit disclosure of any portion of this information to any person or entity other than the entity to which it was provided by BlackRock (collectively, "Sunshine Laws"), BlackRock hereby asserts any and all available exemption, exception, procedures, rights to prior consultation or the protection from disclosure which may be available to it under the applicable Sunshine Laws.

For recipients in EMEA:

This material is for distribution to Professional Clients (as defined by the Financial Conduct Authority or MiFID Rules) and Qualified Investors only and should not be relied upon by any other persons. Issued by BlackRock Investment Management (UK) Limited, authorised and regulated by the Financial Conduct Authority. Registered office: 12 Throgmorton Avenue,

London, EC2N 2DL. Tel: 020 7743 3000. Registered in England No. 2020394. For your protection telephone calls are usually recorded. BlackRock is a trading name of BlackRock Investment Management (UK) Limited. For qualified investors in Switzerland: this document shall be exclusively made available to, and directed at, qualified investors as defined in the Swiss Collective Investment Schemes Act of 23 June 2006, as amended. Issued in the Netherlands by the Amsterdam branch office of BlackRock Investment Management (UK) Limited: Amstelplein 1, 1096 HA Amsterdam, Tel: 020 - 549 5200.

Past performance is not a guide to current or future performance. The value of investments and the income from them can fall as well as rise and is not guaranteed. You may not get back the amount originally invested. Changes in the rates of exchange between currencies may cause the value of investments to diminish or increase. Fluctuation may be particularly marked in the case of a higher volatility fund and the value of an investment may fall suddenly and substantially. Levels and basis of taxation may change from time to time.

Private equity funds invest exclusively or almost entirely in financial instruments issued by companies that are not listed (or that take-over publicly listed companies with a view to delisting them). Investment in private equity funds is typically by way of commitment (i.e. whereby an investor agrees to commit to invest a certain amount in the fund and this amount is drawn down by the fund as and when it is needed to make private equity investments). Interest in an underling private equity fund will consist primarily of capital commitments to, and investments in private equity strategies and activities which involve a high level of risk and uncertainty. Except for certain secondary funds, private equity funds will have no operating history upon which to evaluate their likely performance. Historical performance of private equity funds is not a guarantee or prediction of their future performance. Investments in private equity are often illiquid and investors seeking to redeem their holdings can experience significant delays and fluctuations in value.

For recipients in China:

This material may not be distributed to individuals resident in the People's Republic of China ("PRC", for such purposes, excluding Hong Kong, Macau and Taiwan) or entities registered in the PRC unless such parties have received all the required PRC government approvals to participate in any investment or receive any investment advisory or investment management services.

For recipients in Hong Kong:

This information is issued by BlackRock Asset Management North Asia Limited. This material is for distribution to "Professional Investors" (as defined in the Securities and Futures Ordinance (Cap. 571 of the laws of Hong Kong) and any rules made under that ordinance.) and should not be relied upon by any other persons or redistributed to retail clients in Hong Kong.

For recipients in Singapore:

In Singapore, this is issued by BlackRock (Singapore) Limited (Co. registration no. 200010143N) for use only with accredited/institutional investors as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore.

For recipients in Southeast Asia:

This document is issued by BlackRock and is intended for the exclusive use of any recipient who warrants, by receipt of this material, that such recipient is an institutional investors or professional/sophisticated/qualified/accredited/expert investor as such term may apply under the relevant legislations in Southeast Asia (for such purposes, includes only Malaysia, the Philippines, Thailand, Brunei and Indonesia). BlackRock does not hold any regulatory licenses or registrations in Southeast Asia countries listed above or any other country in Southeast Asia, and is therefore not licensed to conduct any regulated business activity under the relevant laws and regulations as they apply to any entity intending to carry on business in Southeast Asia, nor does BlackRock purport to carry on, any regulated activity in any country in Southeast Asia. BlackRock funds, and/or services shall not be offered or sold to any person in any jurisdiction in which such an offer, solicitation, purchase, or sale would be deemed unlawful under the securities laws or any other relevant laws of such jurisdiction(s).

This material is provided to the recipient on a strictly confidential basis and is intended for informational or educational purposes only. Nothing in this document, directly or indirectly, represents to you that BlackRock will provide, or is providing BlackRock products or services to the recipient, or is making available, inviting, or offering for subscription or purchase, or invitation to subscribe for or purchase, or sale, of any BlackRock fund, or interests therein. This material neither constitutes an offer to enter into an investment agreement with the recipient of this document, nor is it an invitation to respond to it by making an offer to enter into an investment agreement.

The distribution of the information contained herein may be restricted by law and any person who accesses it is required to comply with any such restrictions. By reading this information you confirm that you are aware of the laws in your own jurisdiction regarding the provision and sale of funds and related financial services or products, and you warrant and represent that you will not pass on or utilize the information contained herein in a manner that could constitute a breach of such laws by BlackRock, its affiliates or any other person.

BlackRock does not guarantee the suitability or potential value of any particular investment. Investment involves risk including possible loss of principal. You should consult your own advisers on such matters.

For recipients in Australia and New Zealand:

Issued in Australia and New Zealand by BlackRock Investment Management (Australia) Limited ABN 13 006 165 975 AFSL 230 523 (BIMAL) for the exclusive use of the recipient who warrants by receipt of this material that they are a wholesale client and not a retail client as those terms are defined under the Australian Corporations Act 2001 (Cth) and the New Zealand Financial Advisers Act 2008 respectively. This material contains general information only and does not constitute financial product advice. This material has been prepared without taking into account any person's objectives, financial situation or needs. Before making any investment decision based on this material, a person should assess whether the information is appropriate having regard to the person's objectives, financial situation and needs and consult their financial, tax, legal, accounting or other professional advisor about the information contained in this material. This material is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. BIMAL is the issuer of financial products and acts as an investment manager in Australia. BIMAL does not offer financial products to persons in New Zealand who are retail investors (as that term is defined in the Financial Markets Conduct Act 2013 (FMCA)). This material does not constitute or relate to such an offer. To the extent that this material does constitute or relate to such an offer of financial products, the offer is only made to, and capable of acceptance by, persons in New Zealand who are wholesale investors (as that term is defined in the FMCA). BIMAL is a part of the global BlackRock Group which comprises of financial product issuers and investment managers around the world. This material has not been prepared specifically for Australian or New Zealand investors. It may contain references to dollar amounts which are not Australian or New Zealand dollars and may contain financial information which is not prepared in accordance with Australian or New Zealand law or practices. BIMAL, its officers, employees and agents believe that the information in this material and the sources on which the information is based (which may be sourced from third parties) are correct as at the date specified in this material. While every care has been taken in the preparation of this material, no warranty of accuracy or reliability is given and no responsibility for this information is accepted by BIMAL, its officers, employees or agents. Except where contrary to law, BIMAL excludes all liability for this information. Past performance is not a reliable indicator of future performance. Investing involves risk including loss of principal. No guarantee as to the capital value of investments nor future returns is made by BIMAL or any company in the BlackRock Group.

THE INFORMATION CONTAINED HEREIN, TOGETHER WITH THE PERFORMANCE RESULTS PRESENTED, IS PROPRIETARY IN NATURE AND HAS BEEN PROVIDED TO YOU ON A CONFIDENTIAL BASIS, AND MAY NOT BE REPRODUCED, COPIED OR DISTRIBUTED WITHOUT THE PRIOR CONSENT OF BLACKROCK.

FOR FINANCIAL PROFESSIONALS AND QUALIFIED/WHOLESALE INVESTORS ONLY - Not for Further Distribution

©2019 BlackRock, Inc. All Rights Reserved. BLACKROCK, BLACKROCK SOLUTIONS, ISHARES, SO WHAT DO I DO WITH MY MONEY, INVESTING FOR A NEW WORLD and BUILT FOR THESE TIMES are registered and unregistered trademarks of BlackRock, Inc. or its subsidiaries in the United States and elsewhere. All other trademarks are those of their respective owners. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written consent of BlackRock. BlackRock is registered in the U.S. Patent and Trademark Office.

This document is only for your use and must not be circulated to anyone else without our consent or given or shown to the general public under any circumstances.

Issued in the United States by BlackRock Investments, LLC, a member of FINRA.

This material is solely for informational purposes and does not constitute an offer or solicitation to sell or a solicitation of an offer to buy any shares of any fund (nor shall any such shares be offered or sold to any person) in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities law of that jurisdiction.

Lit. No. PEP-Co-Invest-0219 191952T-0219

