LAUNCHING X-SPEEDS

COMBATTING OPACITY

The private equity (PE) industry has an opacity problem. Regulations, incentive structures, norms, and market dynamics in PE all tend to discourage transparency. This in turn limits visibility on how performance varies across the industry, along with operating factors that drive performance. Liquidity management is one such factor for which visibility is especially limited. That is, empirical studies on how PE funds call and distribute capital are relatively scarce, given how strongly they impact risk and returns to the limited partners (LPs) that invest in PE.

Indeed, opacity on liquidity management is currently a major force shaping the entire PE industry, but not necessarily for the better.

- LP misunderstanding of liquidity management by PE funds can lead them to mistakenly treat their entire commitments as fully illiquid, and diminish their investment returns by compelling them to hold too much callable capital as cash-equivalent securities. Both of these possibilities can encourage LPs to under-participate in PE, both individually and as a whole.

- Confusion over how liquidity management influences performance for specific types of PE funds can drive LPs to lower-performing segments of the PE market, which can harm both LPs and higher-performing PE funds in the long run.

- Murkiness around liquidity management by PE funds distorts the risks of PE investing for LPs, which can prevent them from executing their target investment strategies, and therefore struggle to achieve their individual missions.

There are certainly other ways in which limited transparency in liquidity management negatively impacts the PE industry, but the last above is perhaps the most alarming. Worldwide, institutional investors - e.g., public pension funds, endowments, and sovereign wealth funds - are the primary LPs for PE funds. These entities are variously tasked missions of enormous social and economic importance, such as macroeconomic stabilization, funding healthcare, education, and scientific research, building sustainable infrastructure, and many other pursuits essential to

human welfare. When institutional investors fail in these missions, humankind bears direct and significant costs.

Opacity in PE liquidity management is therefore a grave concern that must be tackled. For that reason, we are launching the X-SPEEDS project (**e**xploration**s** in **p**riva**te e**quity with **d**ata **s**cience). X-SPEEDS is collaborative, and pools resources from Stanford University's Global Projects Center (GPC), Real Capital Innovations (RCI), and 8VC. The express purpose of X-SPEEDS is global illumination: we aim to generate clear, actionable insights on liquidity management in PE by building unique, comprehensive datasets and using powerful analytics. We hope to replace the *loose heuristics* that have long steered most decision-making on PE with *rigorous statistics*.

We believe that intensified participation in private markets could be transformative for the community of institutional investors - and for finance in general. Private markets, and the funds that act in them, could be key to institutional investors more seriously stepping away from the short-termism inherent in today's public markets. Private markets can allow assets to grow more patiently and sustainably, and allow LPs to get closer to real-world entities and resources in which they are investing. At present, however, norms and incentives structures in the PE industry are holding back these possibilities. Better governance mechanisms and operating arrangements are needed, and improved clarity on fundamental attributes of PE such as liquidity management will be the foundations for designing them.

GAME PLAN

We think it's integral to this project to be concrete and candid on exactly what we're doing and how we're doing it. To that end, we state up-front the two overarching hypotheses on which the rest of our research hangs:

1. Capital calls and distributions by PE funds are reasonably forecastable from observable properties of funds themselves.
2. These properties are not only helpful for predicting liquidity management, but a fund's eventual performance as well.

Our work to date strongly supports both of these testable assertions, and is helping us to derive further hypotheses for testing - ones we feel will ultimately help LPs to make better PE-related decisions, and re-engineer norms within the industry.

As the bedrock for our explorations, we have built (and are continuing to refine) a suite of best-in-class datasets on how PE funds manage liquidity over their lifespans, and how these patterns of behavior affect their overall return performance. These datasets span more than more than a quarter-century of liquidity behavior, and cover thousands of individual funds across all sizes, vintages, geographies, and sector focuses. These datasets were painstakingly assembled from multiple sources (for both comprehensiveness and cross-corroboration), and allow for deep inspection of what statistically meaningful patterns exist (and persist) in the PE industry. To help in our exploration, we have not only drawn on top-notch statistical packages, but also coded our own purpose-built algorithms.

Our plan is to share insights from this hard labor with the whole finance community via a series of *digests*: distillations of our most important findings presented through approachable explanations and helpful visualizations. A concern we've long had is that much of the empirical work performed on the PE industry ends up in pay-walled research journals that are geared more toward econometricians than the practitioners who actually have real-world impact. Our goal is thus to keep academic integrity and rigor, but make our findings understandable and accessible to everyone. We intend to release our digests at regular intervals in a format that is easily shareable. Eventually, we plan to synthesize our main findings in a capstone paper, but for now, our focus is on more immediate availability of results.

WHO WE ARE
- Joe Lonsdale - 8VC
  - Joe Lonsdale is a partner at 8VC, a San Francisco-based venture capital firm. He was an early investor in many notable companies including Wish, Oculus, Oscar, Illumio, Blend, RelateIQ, Joby Aviation, Guardant Health, and Synthego. Joe is also a co/founder of numerous companies, such as Palantir, Addepar, OpenGov, Affinity, Anduin, Epirus, and Esper. Previously, he was an executive at Clarium

Capital (a large global macro hedge fund), as well as an early employee at PayPal. Joe holds a BS in Computer Science from Stanford University, and regularly lectures and writes about entrepreneurship, technology, and public policy. In 2016 and 2017 he was the youngest member of the Forbes 100 Midas List.

- Ashby Monk - Global Projects Center @ Stanford University
  - Dr. Ashby Monk is the Executive and Research Director of the Global Projects Center (GPC) within Stanford University's School of Engineering. His current work focuses on the design and governance of investment organizations, with a particular focus on innovation, tech-enablement, and alignment of interests. His research program has made key contributions to academic and practical understanding in three major areas: the role of sovereign funds in the development and management of public assets and resources; the organization and management of financial institutions and investment organizations; and the financing of long-horizon assets, such as urban infrastructure and new energy assets. Dr. Monk has a strong record of publication in leading peer-reviewed journals, and has authored over 100 scholarly publications, including articles, books, and officially commissioned reports. His work has also been featured in outlets such as The Economist, Foreign Policy, NPR, New York Times, Wall Street Journal, Financial Times, and Institutional Investor. He is also actively involved in a variety of extra-academic efforts to improve the functioning of the investment management and financial services industries, including being: cofounder of FutureProof; cofounder of Real Capital Innovation; cofounder and Chairman of Long Game Savings; Chairman of Aligned Intermediary; Chairman of Novarca North America; cofounder of Talagent; and Senior Advisor to Eric Ries and the Long-Term Investment Coalition. Dr. Monk received his Doctorate from the University of Oxford, a Masters degree from Universite Paris 1 Pantheon-Sarbonne, and Bachelor's degree from Princeton University.
- Kanishk Parashar - Real Capital Innovation

- ○ Kanishk Parashar is the cofounder and CEO of Real Capital Innovation (RCI), a startup whose mission is to empower institutional investors by partnering with them to build advanced investment tools. By training and at heart, he's an engineer who is driven to create lasting impact through building new and innovative technology. He is also an avid advocate for founders around the globe through his body of work in startup advisorship and angel investing. Kanishk has a long-running track record in entrepreneurship. Before RCI, he launched a consumer electronics startup, Coin (acquired by Fitbit in 2016), which broke global records for consumer electronics crowdfunding sales with over $20M USD in revenue during launch. Kanishk's work has been spotlighted by the New York Times, Wall Street Journal, Financial Times, Reuters, and Forbes. He holds a degree in computer science from Johns Hopkins University, and has previously held management and engineering roles at eBay, PayPal, Yahoo, and Oracle.
- Dane Rook - Global Projects Center @ Stanford University
  - ○ Dr. Dane Rook is a Research Engineer at Stanford University's Global Projects Center, where his work explores applications of advanced digital technologies and analytical methods to institutional investing. His work has been featured in Harvard Business Review, Institutional Investor, Pensions & Investments, and Global Economic Review, among others. He is the co-author (with Ashby Monk) of the book, *The Technologized Investor: Innovation through Reorientation*, which investigates novel strategies for re-centering institutional investment organizations around superior technology. Previously, Dr. Rook was a Quantitative Analyst at Kensho Technologies (which was purchased by S&P in what remains the largest acquisition of an artificial intelligence company). Earlier, he worked in the investment banking division of JPMorgan in New York City. Dr. Rook holds a Doctorate from the University of Oxford, where he was a Clarendon Scholar. He also holds degrees from the University of Cambridge and the University of Michigan.